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JAMES DOUGLASS (BLUE JEANS) WILLIAMS,

GOVERNOR OF INDIANA.

THIS is a strong and striking face, one to arrest attention and to impress an observer. The features are irregular and prominent; the curved nose and projecting chin are indices of remarkable force; the mouth shows firmness, and the brow good perception; while the development of the central organs of the forehead and the expression of the eyes indicate ability to think closely and continuously. The whole ex-

pression indicates ruggedness and strength of mentality, with little or no claim to vivacity or brilliancy.

Governor Williams is six feet three inches in height, and weighs about 170 pounds. The motive temperament largely predominates in his organization; hence he is angular in build and ungraceful in movement, yet he is so natural and strong in face and action that his awkwardness does not offend even a critical taste. Although the motive element greatly predominates over the vital and mental, yet his circulation is tolerably good, the lungs large and healthy, and the brain and nervous system well sustained and vigorous. His head is large—22¾ inches in circumference, and 15 inches from ear to ear over Firmness. He is a close observer of men and things when his attention has been aroused, but his mind is slow in its action, hence not on the *qui vive* constantly. He is a logical thinker rather than metaphysical, and his powers of illustration by comparison are extraordinary. He is lucid, forcible, and humorous as a speaker, but not wordy. He has an almost inexhaustible fund of anecdote and humor, which he uses to the best advantage, and he is apt at repartee, but not rhetorical or eloquent in the usual sense.

He is pacific in disposition, indeed exceptionally slow to anger; cautious, rather retiring in disposition; very firm of purpose, and few men keep their own counsel more guardedly than he. He has a good degree of the religious sentiment, but no bigotry. With him religion consists of a code of morals rather than a system of doctrines. He is a man of sound judgment, if given time for calm deliberation, but not a safe leader in times when conclusions must be formed quickly and acted upon promptly. He is far better as a statesman than as a general; and while possessing many qualities fitting him for the duties of an executive officer, he is much better fitted by nature for the legislative or judicial departments of the public service.

A writer in the *Western Life-Boat* gives the following summary of the qualities of Governor Williams: "He is far above the average in height; quite spare in build; large bones, strong muscles; a dense, tough, active brain and motive temperament. He is firm, but not stubborn; generous, but not prodigal. He has good reasoning powers, is very inquisitive, and a good judge of human wants, and fair and honorable in his intercourse with men."

James Douglass Williams was born in Piqua County, Ohio, January 16, 1808. His parents were of Scotch-Irish blood on one side, and Welsh-English on the other—an admirable combination for the transmission of strong qualities of both body and brain. His ancestors came to this country about the middle of the last century, locating in Virginia, and adopting the profession of agriculture. George Williams, the father of the Governor, settled in Ohio at an early day in the history of that State, from whence he removed to the State of Indiana in 1818, locating in Knox County, where the Governor still resides. James' opportunities for education were limited to a few winter sessions of the very *common* schools taught by the old-fashioned peripatetic pedagogue, whose scholastic attainments were bounded by the alphabet on one side and simple arithmetic on the other. His means of social culture were equally meager; hence he is not an Addison or a Chesterfield, but a plain, blunt man of strong common-sense, a good representative of the honest, hard-working yeomanry of our country.

The father of Governor Williams died in 1828, leaving a family of six children, of whom James was the eldest; and besides his farm, then but a pioneer clearing, leaving little else. James remained at home until his marriage in 1831 to Miss Nancy

Huffman, the daughter of a neighboring farmer, when he purchased a quarter section of wild land, and, erecting a log-cabin, began the toilsome, yet pleasant task of working a farm and making a home in the wilderness. He still resides on that farm with the wife of his youth and their children, but it has grown, by repeated additions purchased from time to time, till it contains over two thousand acres, and the improvements are of the most substantial sort. Mr. Williams utilized the labor of others quite largely in his farm operations, and does so still; but he always led, instead of driving, his hired men, and did not ask or expect more labor from the best of them than they were able and willing to accomplish. He has the reputation also of being just and even generous in the matter of wages.

He made his *début* on the stage of public life in 1839 as a Justice of the Peace. In 1843 he was elected to the State Legislature, since which time he has been in public life almost constantly, having served seven years in the House of Representatives and twelve in the Senate of his State. He was chosen to represent his district in the State Board of Agriculture in 1855, which position he filled for sixteen years, rising to the presidency of that body and filling this office with marked ability for four years. He was chosen to represent his district—Second Congressional District of Indiana—in the National House of Representatives in 1874 by the unprecedented majority of eight thousand votes—a distinguished mark of confidence in his ability and integrity on the part of those who knew him best.

He served in Congress but one session (that of 1875–6) and made but one speech, we believe. That speech was brief, but full of strong points. It is a fact well known that the Governor eschews broadcloth and wears blue jeans on all occasions; indeed, the newspapers more often speak of him as "Blue Jeans Williams" than by any other title. Mr. Foster, of Ohio, once delivered a sarcastic speech in Congress on Economy, in which he accused the Democratic members of foolish opposition to certain appropriations. Hon. S. S. Cox replied in his characteristic manner, saying, among other things, that certain members thought they were starving if they could not wear purple and fine linen and fare sumptuously every day. At this point Mr. Foster, turning toward Mr. Williams' seat, remarked, "Blue jeans."

When Mr. Cox closed, the tall form of the Indiana farmer loomed up in the background. Expectation was rife at once. Members hastened to their seats, and silence prevailed. Blue Jeans Williams was about to make his first speech in Congress. He began with an anecdote, which elicited roars of laughter; then he proceeded to review the career of Mr. Foster and his party as economists, in a humorous, yet logical and telling manner, and closed by saying: "I am not ashamed of my old-fashioned Kentucky jeans. The people of Indiana are not ashamed of me because I wear it, and I am sure the country would be the better for it if we could get back to the simple habits of our fathers in matters of dress as well as in some other things." He was greeted with a storm of applause, and as he sat down his friends crowded about him to offer congratulations.

The Democratic State Convention nominated Mr. Williams for the office of Governor in the spring of 1876 against Mr. G. S. Orth, the Republican candidate. Subsequently Mr. Orth withdrew from the ticket, and General Benjamin F. Harrison was selected to fill the vacancy. The two parties being almost equal in strength in the State, the personal popularity of candidates for Governor is an important factor, indeed it usually decides the contest.

Personal popularity decided the matter in favor of Governor Hendricks four years before, and it had much to do with the election of Governor Williams over General Harrison in 1876. His name was a power among the farmers and other working classes of the State. Mr. Williams made a thorough canvass of the State, speaking in almost every county; and although the Independent Greenback candidate, Mr. Wolcott, withdrew in favor of General Harrison, Mr. Williams was elected by a handsome majority.

He entered upon the duties of his responsible office about a year ago; hence his career as an executive officer has scarcely been long enough to warrant an opinion on all its sides. His first Message to the Legislature of the State is a brief, but comprehensive document, couched in language plain and terse—a really creditable State paper.

He still wears a full suit of blue jeans, and the opposition journals keep up a steady fire of ridicule and sarcasm at his unfashionable dress and rustic manners, the chief effect of which is to increase his notoriety and popularity. If he were not so old, a persistence in this method of berating him on the part of his political foes might possibly force Indiana's Granger Governor into the Presidential chair, in which event we have no doubt he would continue to wear blue jeans, and thus set the nation an example of economy. T. A. BLAND, M.D.

SELF-KNOWLEDGE.

A LECTURE DELIVERED BY JAMES FREEMAN CLARKE,

To the Church of the Disciples, Boston, Dec. 2d, 1877.

1 Cor. xi. 28: "LET A MAN EXAMINE HIMSELF."

THE subject of this discourse is Self-Knowledge. Is it desirable, is it possible? And if so, how is it to be attained?

"Let a man examine himself," says the apostle. "Know thyself," was the maxim of Thales, the old Greek realist; a maxim thought so divine that the ancients said it fell from heaven. "Search and try your ways," said the Prophet of Judea. Modern Christian teachers have insisted on self-examination as the perpetual and universal duty. "Thomas à Kempis," "Taylor's Holy Living," all books of practical piety, inculcate it without end. "See what your motive is in everything," says Jeremy Taylor, "for the holy intention is to the actions of a man that which the soul is to its body, or the form to matter, or the root to the tree, or the sun to the world, or the fountain to a river, or the base to a pillar; for without these the body is a dead trunk, the matter is sluggish, the tree is a block, the world is darkness, the river is quickly run dry, the pillar rushes into flatness and ruin; and the action is sinful, unprofitable, and vain." Not only religious teachers, but philosophers and poets, have taught the importance of self-knowledge. Burns says:

> "O wad some power the giftie gie us
> To see oursel's as ithers see us!"

And Pythagoras advised that "sleep should not seize upon the region of the senses before we have three times recalled the conversation and incidents of the day," in order to know what we had done or omitted to do.

There is a theory, I know, which assumes that all persons are alike at first, and become different from force of circumstances, or from their own efforts. No father or mother who has brought up a family of half a dozen children will ever believe such a doctrine as that. The little things, as soon as they are born, show symptoms of the traits which they continue to have all their days. One child has a strong will, but is easily guided by his affections; another is cold; one is quick, but changeable; another slow, but persistent; one is reserved, another open; one has a taste for music, so that he sings from his cradle; another a tendency to construction, so that he makes all his toys himself; one, like George Washington, can not tell a lie, and another, poor little thing! finds it hard to tell the truth. Just as a young duck runs to the water, young children run to the work or play, the pictures, the poetry, which they are made for. Every observing father or mother sees this, and laughs at the philosopher who tells him that children are born alike, and made different by circumstances.

No: "every man has his special gift from the Lord: some after this fashion, and some after that," and the point is to find out what we are, what we are made to be and to do.

This sort of self-knowledge prevents discouragement. Children are often thought to be stupid, and think themselves that they are so, merely because they are trying to do something they are not fitted for. Other children are thought infant prodigies, because they happen possibly to possess a fine verbal memory, and can repeat, like parrots, what they hear. So they grow conceited upon their one faculty; and find out, too late, that the memory of words is only one part, and a very small part, of intellectual power. Walter Scott was considered a very stupid boy, out of whom nothing could be made. He was a kind of fruit which ripened slowly; the best kind often does so. I heard Dr. Spurzheim say that a young man had that day said to him, "Dr. Spurzheim, you do not know me, but you were the greatest benefactor to me on one occasion. You came into the school where I was. I was considered the greatest blockhead in the school, and believed it myself, and did not think it worth while to try to learn. You put your hand on my head, and said, 'Perceptive organs small; he does not do much now. Reflective organs very good; when he comes to the studies which exercise those faculties, he will be one of the brightest boys in the school.' This gave me courage, and I found it was really so. When I came to the studies which required thought, instead of mere memory, I went to the head of my class."

But we need a certain general knowledge of human nature in order to gain a special self-knowledge. To know what our particular capacity is, what our special defects are, we need some systematic knowledge of the soul. It is true that, without any such system of metaphysics, we get a knowledge of human nature from life. We also learn a great deal about mankind from history, biography, the drama, poetry, novels. Probably these teach us more, and more truly, on the whole, than any system of moral or mental philosophy. A play of Shakespeare's or a novel by Dickens shows us human life in action—all human faculties at work and alive; metaphysics shows them inactive, and taken apart. The one is like the study of muscles in an anatomical museum; the other, like studying them in a gymnasium. But I think that, as, in order to know the body, we must see it in both ways, so, in order to know the soul, we must not only read history and poetry and see actual life, but it is desirable to have also some methodized system of human nature; for only thus can we be prevented from being one-sided; from laying too much stress on some qualities, too little on others. We ought to have a knowledge of the whole soul while studying its separate faculties.

And of all systematic divisions of human nature into faculties and powers, I think that of Phrenology on the whole the most convenient, merely as the basis of self-examination. I think so for several reasons: first, because it is founded on actual observations of life, and therefore is true in the main. I am not now speaking of Craniology, or the shape of the head, but of Phrenology, or the arrangement of human powers. I like it, though it does not give us the depths and heights of human nature. But it presents a good sketch, for working purposes, of the various powers of the human soul. It has nothing to say of the soul itself; it only speaks of its organs, its faculties, its tools. It has nothing to say of freedom; that is assumed, or not, as you will. The phrenological arrangement of human faculties leaves all these questions just where they were, neither asserting nor denying anything in regard to them.

I recommend the phrenological arrangement of human powers simply as a convenient one in self-study. If a man wishes to know what he is fit for, and capable of, this gives him a useful method of investigation. It divides, for example, all our powers into mental, moral, and passional; intellect, morals, and affections. To the intellectual region belong, first, the perceptive faculties, by which we take notice of outward objects; notice their size, form, weight, and color. Then the reasoning powers, by which we compare objects to see if they are alike or unlike, if they are cause and effect, if they are congruous or incongruous. Then there is the imagination, which makes a picture of the whole while examining the parts. Then, again, come the moral qualities—

sympathy, reverence, conscience, firmness. Then follow the passional and energetic powers, which supply movement and force, as self-reliance, the desire of approbation, the desire for home, the love of family and friends, the passion for battling with difficulties, the passion for destroying evils, the passion for collecting property in all its forms, the desire of construction, which is the basis of all art. Now, this may be, or may not be, the best classification of human powers; but it is, at least, an exhaustive classification. Add, as the basis of it, the soul itself, and its freedom, which is the essence of the soul, and this classification shows well enough what the soul's faculties and powers are.

One advantage of this classification is that it helps us to make very useful distinctions in self-study. For instance, the old mental philosophy made only one kind of memory. A person had a good memory, or a bad one. Now, we know that there are a great many different kinds of memory. One person remembers names, but forgets faces; another easily remembers lines of poetry, but not prose; another recollects single facts and dates with remarkable tenacity, but has little memory for causes, reasons, or arguments. I, myself, can remember ten thousand lines of poetry, but, though I have lived in Boston since I was a little boy, I can not describe the looks and size of the buildings on Washington Street between Milk Street and State Street. And yet I can give you a general picture of any city in Europe which I may have seen during only a few days. Phrenology explains all this by teaching us that every organ has its own memory. A large organ of Time remembers time. A person who has a great deal of this can often tell what o'clock it is without a watch; a large organ of Tune remembers music; a large organ of Language remembers names; a large organ of configuration remembers faces and forms; a large organ of imagination remembers the general aspect of a country, of a story, of a face.

One advantage of this system is that it shows us how every power has its use and its abuse; how God has made everything in us good, but that we can abuse everything by excess. It also shows how one faculty may correct the excesses of another, or supply its deficiencies. Thus what the phrenologist calls the organs of Combativeness and Destructiveness are most important and valuable in their proper sphere. They help us to wage the battle of life, to conquer difficulties, to meet opposition, to resist and destroy evil and wrong; in short, to fight the good fight, and finish the work given us to do. No man can be an eminent philanthropist or a martyr without them. But they can easily be carried to excess, or exercised in a wrong direction. Then they make us quarrelsome, controversial, satirical, vindictive, lashing others with tongue or pen, and striking them with the dagger of sharp, poisonous, bitter, unkind words. They make termagants and scolds, fault-finders and Papal inquisitors. On the other hand, the best moral tendencies may be excessive, or misdirected. The lovely power of sympathy, which causes so much happiness, which makes men enter into the feelings of others, rejoice with those who rejoice, and weep with those who weep; which constitutes so much of the sweetness and comfort of life; this, also, may be excessive or one-sided. Then it makes persons weak and false, yielding to the present influence, loving the person who is near, forgetting the one who is absent, neglecting past promises, and so leading to insincerity. Therefore this tendency needs to be restrained by firmness, self-esteem, and conscientiousness. But these, in turn, though good, are also easily carried to excess. Self-esteem produces self-reliance, which is one of the most essential features of character. Without it, character can hardly exist. It is the organ of sincerity, of independence, of personality. Yet it tends to dogmatism, to egotism, to assumption of superiority, to overbearing manners which forget the claims of others; and it makes the character hard and cold. A person can be even too conscientious. Conscience may be too irritable, or too scrupulous; it may be always tormenting the soul with questions about imaginary sins; it may make us so afraid of doing wrong that we shall never do anything right. Firmness may become

obstinacy; the love of order may grow into pedantry; the love of home take one away from social and public duties. Even reverence may become a fault. It is the crown of the whole moral nature, and has been therefore fitly placed by phrenologists on the summit of the head. It produces that beautiful modesty which, when accompanying manliness, is so charming; it creates that respect for all that is above us, which lifts the soul; it is the great incentive to nobleness; it is the power which enables us to rise above ourselves in the worship of goodness, whether human or divine. Shakespeare calls it "that angel of the world;" Goethe calls it "the crown of the whole moral nature." It is the power of moral harmony; which makes a concord of all discordant things, by opening the soul to the highest and best of all. And yet even this great and wonderful power may be abused. It may, if not enlightened by reason and truth, lead to gross superstitions and worship of the letter and the form. It may become idolatry. It is essentially the religious organ, but it leads, when unenlightened and unregulated, to the worst abuses. All the cruelties practiced in the name of religion have been the results of an unenlightened reverence. If we reverence a being as God whom we believe willful, cruel, unjust, or partial, then our reverence tends to make us, also, willful, cruel, and partial. The special abuse of reverence is idolatry, which is worshiping the letter instead of the spirit. To worship a form, a name, a letter, instead of the spirit, hurts the soul. To worship the letter of a creed, of a church, of the Bible, injures the spirit. That is why the apostle declares that "the letter killeth."

The great advantage of any self-study which shows us what are our special organic defects and corresponding gifts and powers, is that it makes us both humble and hopeful. Self-conceit comes from a vague imagination of possessing some great genius or superiority, and not from any actual, precise knowledge of what we are. Actual knowledge of one's self will always show us that some temptation besets every success; that some opportunity comes with every failure; that our weaknesses have a strength hidden in them; that our strength has also its weak side. "Every one," says the French proverb, "has the defects of his qualities;" every one, also, has the qualities of his defects. "Our virtues and vices," says Goethe, "grow out of the same roots." And does not Jesus intimate as much in that parable which teaches that, in trying to pull up the tares, we may run the risk of pulling up the wheat too? That is the risk which those run who try to root out and destroy every natural tendency in man, because of the abuses which it occasions. Christ, who did not come to destroy anything, but to fulfill everything, said: "Let both grow together till the harvest." We can not always, hardly ever root out an evil tendency; but we can always grow it out. Give men life, more growth, more sun and rain, more truth and love—these powers of growth will conquer the evils in the soul and in the heart.

These considerations, as I have said, should make us both humble and hopeful. We are humble in thinking that our best success and our highest gifts have their danger. We are hopeful when we see that even the worst thing in us can be turned to good. So God, in His great geological work-shops, makes diamonds out of carbon and rubies out of clay. Man's brain is a self-compensating machine, an automatic, self-correcting apparatus. God has set in it two against two; every power has its antagonist power. He has placed in man a tendency to hope, and another to caution as its counterweight. He has given self-reliance, and also sympathy; He has inspired the wish to battle with wrong and evil; He has added the tendency to reverence and submit to good. He has given us powers which take us outward into the world of things and men; others which draw us inward to the world of imagination and reflection.

But man is not a mere machine, nor is organization the whole. The body, after all, is only the chest of tools which the soul uses. And just as one man with a jack-knife can do more than another with a whole box of tools, so we see some men of comparatively small natural powers accomplish more in the course of life than others of great genius,

who have neglected their gifts or abused them. The power which modifies all organization, and lifts us above the control of matter and structure, is the power of conviction, of a living faith in truth. Self-knowledge is an immense help in progress, but it is a small thing compared with the knowledge of God, truth, duty, and goodness. In the history of the world we have seen the most richly endowed nations sleep on, undeveloped and inactive, through long centuries, and then, inspired by some great conviction, flame up into magnanimities and heroisms without example. So it was with the Arabs in the time of Mohammed; with the Greeks in the age of Miltiades and Pericles. So, in biography, we find vast results proceeding from the soul of some man not very greatly endowed, not very richly organized, but who has been fired by a sublime conviction. The founders of religions, the movers of reformations, have usually been men with some special organic gifts, indeed, but, more than that, men magnetized by a deep conviction.

I recollect that once, when I lived in the West, there came a phrenologist to the town and examined the heads of all the clergymen in the place, and found us all deficient in the organ of reverence. More than that, we all admitted that the fact was so; that we were not, any of us, specially gifted with natural piety or love for worship. Then he said: "You have all mistaken your calling. You ought not to have been ministers." But I, for one, protested against that sentence, for I knew that, though I had no natural tendency to worship or pray, I had come by experience to know that I could not live without prayer. Though I did not pray from sentiment and feeling, I was able to pray from conviction and faith.

The sight of truth is the necessary supplement to the power of structure. Without the sight of truth man is the slave of his organization. Study his head, and you can, perhaps, tell what he may be. But, endowed with truth, he is the master of his organization; he makes it serve him. He is able to see what are its defects and supply them. If he finds himself too hopeful, he studies to supplement his hope by a greater caution; if he sees that he is too timid, he encourages himself to do his work more bravely. If his sympathy runs away with him, he meets this by educating his self-reliance. If his imagination is too active, he supplies the fault by a habit of increased reflection, and by more devoted attention to facts. He is thus like the man who steers a ship, with the compass before his eyes showing which way the vessel is moving; with the chart in the cabin telling which way it ought to go; with the helm in his hand, enabling him to turn it to the right or left as need requires. But the mighty winds of divine truth coming from above; the mighty fires within, of a divinely-gifted organization: these supply the motive-power, and what he has to do is to keep the course in his mind, and to keep the compass in his eye, and to keep his hand on the helm, always steering the ship in the right direction.

This is human freedom, and these are its limitations. We are not free to become anything we choose, or to do anything we wish. We are limited outwardly by circumstances, inwardly by our own organic tendencies. But, if we have any sure convictions of what is true, right, and good, we can steer that way. We can study our complex nature, and when we come to know it, we can encourage and cultivate what is best, discourage what is likely to lead us astray. We can not make circumstances, but we can select those which are favorable. We can make use of the power of habit to fix and solidify all our good qualities. And, above all, if we believe in an ever-present God, and a divine influence from Him, we can trust ourselves to His care, and open our hearts to His inspiration, and so be lifted up into the serene atmosphere of peace and purity out of whatever is dangerous to the soul.

WHEN assailed by those who disbelieved in special creations—by materialists—Cuvier would quote from Genesis: "Let the waters bring forth abundantly the moving creature that hath life;" adding, "God has endowed the surface of the planet with power to bring forth."

THE WOODPECKER.

Tap! tap! goes the woodpecker's busy bill,
Tap! tap! on the old oak tree.
He hunts small game
With his tongue of flame,
For a woodman bold is he.

"'Tis the early bird gets the worm," he cries,
As he flies from his nest at morn,
And his note so shrill
Doth the woodland fill
Like the huntsman's bugle-horn.

In their chambers dark,
'Neath the moldering bark
The ant and the worm lie still,
But he hurries them out
With a terrible rout,
And gobbles them up at will.

—LAURA J. HAGNER.

MOST persons who are at all familiar with the sights and sounds of country life are well acquainted with the busy little carpenter who plies his hammer so unceasingly upon the barked boughs of old trees, and whose strokes resound through the forest with such "rhythm of labor" that we are inclined to feel a human interest in a bird who, instead of flitting from bough to bough with easy indifference to sublunary wants, not only without care for the morrow, but without business for to-day, like so many of his race, plies the tool with unremitting industry, with no other object than that of earning a living for himself or his family.

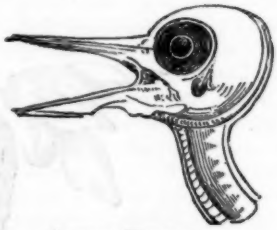
The woodpeckers are, indeed, an eminently practical people, with "no nonsense about them." They do not sit idle, pouring out gushing songs at early morn or dewy eve; they are then generally engaged in getting breakfast, or foraging for supper, and the noise they make about it is doubtless intended to extend the benefits of their righteous example to their incorrigible neighbors, who indulge in music and merry-making at unseasonable hours.

These industrious folk belong to a very extensive family, that of the Picidæ, and

the family to the order Scansores, or climbing birds. The feature in their organization which assigns them to this order is the possession of four toes, two before, and two behind, the outer anterior one being usually directed backwards, the hind toe being on the same level with those in front. The tail-feathers are from eight to twelve. You may suppose that the arrangement of the toes is not a matter of much importance, but, like many of the peculiar claims of pedigree, I can assure you that it is essential to the standing of the family, and fixes their right to belong to the Scansores at all. If you ask the first woodpecker you meet, he will tell you that he can prove by the authority of Prof. Baird, of the Smithsonian Institute, that he belongs to the Scansores, because the arrangement of his toes is *zygodactyle*, and if he be a woodpecker of respectability, that his tail-feathers number just twelve, though there are members of his race that wear ten, but this is a fact that you must delicately ignore.

Head of Woodpecker.

The family of the Picidæ possesses very marked features, and embraces many hundred species. The birds are distinguished by a bill, straight, rigid, and chisel-shaped at the tip, the sides being more or less ridged; wings long, the primaries or feathers on the first joint of the wing being ten in number; the middle tail-feathers are rigid and cuneate, and used as a support to the body in climbing and standing; the claws are high, strong, much curved, and very sharp. The tongue is a most curious and ingeniously-formed instrument, singularly adapted to the use for which it is intended. It is capable of great elongation, and is armed at the tip with an arrow-like point, having reflex spines. When the powerful bill has penetrated the outer bark, and reached the retreat of an unfortunate insect, the tongue is darted forth, and, the prey secured, is instantly retracted within the mandibles. The tip of the tongue is furnished with a thick viscous fluid, to which the smaller insects or larvæ instantly adhere; the larger are caught and drawn forth by the retroverted spines as by a set of hooks, not transfixed, as has been often supposed.



Skull of Woodpecker.

The tongue has the horns of the hyoid-bone greatly elongated posteriorly, extending around the back and over the top of the head, the anterior ends enveloped in a sheath in which they move freely, being attached in advance of the eyes, usually near the opening of the right nostril. The glutinous fluid is secreted by two large glands, whose ducts open near the point of the lower jaw, and furnish a fresh supply every time the tongue is extended. By the force of the muscles attached to these slender bones the tongue is often thrust out a considerable distance beyond the tip of the bill, and by the use of another set of muscles is retracted considerably within it.

The busy "tap! tap!" of his bill upon the bark of some decayed tree has a clear, sharp sound, like the stroke of a small hammer, and the woopecker of Cayenne is appropriately called by the natives "the young carpenter." Indeed, all the tastes and habits of these birds are generally sober and practical.

Woodpecker's Foot.

The nest is what might be expected from the matter-of-fact character of the bird. There is no fairy-like structure of

Feathers and moss and a wisp of hay,

no dainty lining of successive layers of wool and hair, feathers and down, but a simple recess dug out of the heart of a tree.

For this purpose they sometimes avail themselves of a hole which they find in the tree, but more often dig one with care and patience, varying it in size and depth, sometimes only a few inches, and sometimes a foot or eighteen inches. The situation of the nest is chosen with care, just beneath the shelter of some large projecting bough, which may give protection both from observation and the weather. The chips are thrown out or carried away by the birds, except a few purposely left at the bottom of the excavation. These form the not too luxurious couch of the young birds, but the home is commodious, warm, and safe, and forms a suitable cradle for this hardy and industrious race.

The eggs are from four to eight, purely white, without spot or stain. Both parents share in the labors of love required in caring for their young, and are indefatigable in painstaking. Before they leave the nest they manage to take a survey of the outdoor world from the door of their cave, and when they come forth, run about upon the tree before attempting to fly; indeed, to the woodpecker, his tree is his country. There he first sees the light, there he finds his sustenance, there he delights to labor, and there he enjoys the rest from his labor, often remaining in the same tree from year to year, and, after the young birds have flown, using the empty nest as a bed-chamber, to which he retires to sleep at night. If he leave, it is only for a short time, and generally from necessity rather than choice; their flights are not long, and only from one tree to another. Upon the tree the bird's motions are quick and business-like; he runs around the trunk or branch quickly, and his taps are sometimes very rapidly re-

IVORY-BILLED WOODPECKER.

peated, first upon this side, then upon that. After tapping once or twice he will lay his head against the tree to listen if he can discover signs of life beneath. If shot, or in any way wounded, he still clings to his tree, and, instead of flying, tries to elude his pursuer by going around the tree, and even after death the claws will still retain their hold, and the body remain pressed close to the limb.

BLACK WOODPECKER.

Naturalists disagree as to the temperament of the race. Some affirm that they are of a gay, frolicsome mood, and that, though they do not sing, they utter notes of pleasure and delight. Others seem to consider them rather morose, and not at all disposed to gayety. Wilson declares that they excite his compassion, on account of the hard terms upon which they gain their livelihood. But, as a rule, they are generally regarded with friendly feeling, even by those who sometimes suffer by their depredations, as the farmer and fruit-grower soon learn that they can well afford to give them the fruit and corn they eat, in consideration of the quantity of noxious insects they destroy. For, though fond of fruit as a relish, they depend for substantial diet upon insects, or the grubs and larvæ. All woodpeckers resemble each other in a general way, and are much alike in their habits.

The extremes of the family are found in the Ivory-billed woodpecker, and common flicker, which belongs to the same family, but is found at the bottom of the scale of rank, and the difference between this plebeian individual and the distinguished representative of the dignity of the family, called the "ivory-billed" is so great that the most unscientific eyes can discover it without glasses, as a Chinese will distinguish a boathand of the wharf from the gold-buttoned mandarin.

The colors worn by these birds are gayer than we should infer from their sober and practical character; for, though the general garb is black and white in vivid contrast, they do not disdain to wear touches of the brightest hues, eschewing only blue, which they never put on under any circumstances. From the names of different varieties, we may infer the gayety of these dashes of color, which relieve the sobriety of their usual costume, such as "golden-winged," "red-cockaded," "red-headed," and "yellow-crested." Indeed, so often is the red cap adopted, that the family has even been suspected and accused of being communists; as if such hard-working folk were likely to be tainted with such opinions.

Of the aristocratic Ivory-billed there are two species, *Campephilus Principalis*, and *Campephilus Imperialis*. They closely resemble each other; indeed, few but naturalists would distinguish them, so slight are the differences which mark them as distinct. But the first is a resident of the United States, the latter of Central America and South-western Mexico. The last is the largest species known, and is figured in the engraving. It is very striking in its appearance, and not without beauty of both shape and plumage. It haunts the deepest recesses of the forest, and builds its nest amid the dark shadows of the Southern swamps, where the hot, humid air is scarcely stirred by a passing zephyr, and where the fiery rays of the sun are shut out by thick curtains of trailing plants which stretch from bough to bough, and add to the density of shade formed by the cypress and the many kinds of sombre-hued foliage which overhang their gloomy depths. There this singular bird lives his strange life of laborious domestic care, raising two broods in a sea-

son, whenever the season is long enough to allow the callow brood to run no risk of exposure to cool weather. The eggs are ivory-white, but the nest is not more luxurious than that of other species. The tuft upon the head looks like a small plume, drooping backward. It is bright crimson, but the rest of the plumage is glossy black, and relieved by patches and markings of pure white.

They are beautiful, noble-looking birds, and much valued by the Southern Indians, who sometimes make entire belts of their crests and claws, which have a barbaric elegance.

The Black woodpecker is the largest species in the Northern States, and is found throughout North America. It is called the "log cock." It is of a dull black in color, having a greenish tinge, with a narrow white streak from over the eyes to the back part of the head, and a wider one beneath. The crest is crimson, and there is a crimson patch on the cheek, the under part of the wings and the chin being white, with a tinge of yellow. We have all seen him at work in the soft autumn days, turning his pretty head this way and that, to examine with both eyes the promising indications of "game" upon some half-dead tree.

The Red-head is of a blue-black, with both head and neck a bright crimson, and has a broad band of white across the wings; from his brilliant head this species is perhaps better known than any other. He is also more popular, as he is not at all shy, and may often be seen at the roadside, running along the tops of fences, and hiding behind some branch or post until you have passed, and then uttering a loud, quick note, as if of triumph at having escaped you so nicely. He is the most light-hearted and gay of any of the woodpecker family; does not trouble himself about work, but prefers to feed upon the result of other people's labor, and helps himself to cherries and all small fruit with a nonchalant indifference to the rights of property, which, in

YELLOW-BILLED WOODPECKER FEEDING.

a crow, would be thought unpardonable. He seems to have no shame about it, for he will sometimes carry off a small apple spiked upon one mandible, as though it were a rightful trophy of skill.

Audubon vouches for the truth of the story that one hundred of these madcap fellows have been shot by some hard-hearted individuals, upon one cherry tree in a single day.

He has another habit, to the evil nature of which a bird's conscience should certainly be sensitive, that of destroying eggs in the nest. For this, we can not apologize. We are afraid the closing words of the little poem from which we have already quoted are quite true:

> "A red republican is he,
> Who laughs, and steals, and fights,
> And from the fruit tree's highest limb
> Harangues about his rights.
> For 'tis a melancholy truth,
> Not in birdland alone,
> That those who trample other's rights
> Still clamor for their own."

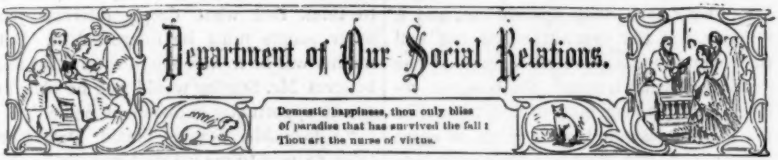
Even Audubon, whose partiality is such that his reluctance to give them a bad character appears in every line, is obliged to admit that they are not to be trusted; while another naturalist, less tender of their reputation, says in plain English, "They are arrant thieves."

The Pileated woodpecker of Audubon is one of the fiercest species. It is extremely shy, and apparently incapable of being tamed. They will destroy a stout wooden cage with their powerful bills in a few hours, and if they obtain their liberty from the cage, only to find themselves still prisoners in a room—to them, only a larger cage—they will fall upon the wooden furniture with fury, and endeavor to tear it in pieces. When taken, they fight fiercely with bill and claws, and their captors are reduced to the alterna-

PILEATED WOODPECKER. YOUNG MALES.

tive of killing them or setting them free. But the limits of this paper forbid more than an outline of the leading characteristics of these interesting birds. If one would become really acquainted with them he must seek their society and observe them for himself. Nor is it necessary to wait until the spring brings back the leaves. Many of these hardy huntsmen do not fear the winter of our northern climate, for they venture even amid the rigors of the Arctic regions. They may often be seen upon dead trees in the midst of winter snow, seeking their food, and hanging in unaccountable positions upon the branch of some vine not quite denuded of fruit. They assume all kinds of positions, and are often noticed clinging (as the one seen in the engraving, p. 185) to the branches of the bush upon which it is feeding, feet upward. In standing upon the tree while at work the tail is used as a bracket, and in supporting the body the feathers are frequently worn and ragged, and sometimes quite short.

The woodpecker is found all over the world, and it is believed that not nearly all the species are yet known, numerous as they already have been found. An Arctic species (Picoides Arcticus, Baird), is an exception to the rule of four toes, having only three. In these high latitudes they find a scanty living in the forests of pine and spruce by tearing open the cones and extracting the seed. C. S. NOURSE.


Department of Our Social Relations.
Domestic happiness, thou only bliss
Of paradise that has survived the fall!
Thou art the nurse of virtue.

LIGHT IN DARK PLACES.

"This mournful truth is everywhere confessed,
Slow rises worth by poverty depressed."—SAMUEL JOHNSON.

CHAPTER XXI.

ANOTHER FAMILY COUNCIL.

A WEEK had passed since the document penned by the young girl had been delivered to the leading officer of the Mission, and no report of the committee's decision had found its way to the Camp household. Sadie was beginning to feel uneasy and anxious about that decision, particularly on account of an announcement that Messrs. Blossom & Gaff meditated the discharge of half their hands because short of work.

"Don't let unpleasant expectations render you despondent, dear child," admonished Mrs. Camp one evening when Sadie had recurred to the subject of the purposed dismissal of so many of the bindery girls, and her fear of being included among the number.

"How can I help feeling downcast, mother, not only on our own account, but because I know that most of the girls there have no other dependence besides their daily work? I am sure that either Betty or I will be discharged. Betty isn't much liked by Briggs, and Mr. Gaff hasn't spoken to me since I refused to go to the Park. I think, too, that he has said something to the foreman about me, because Briggs isn't as attentive to me and my work as he used to be, or else those two new hands, the Smalley girls, are more attractive."

"Beware how you speculate, Sadie; your feelings may betray you into careless gossip and recrimination, even when you think you have good cause for complaint. But whatever may come, let us be brave and hopeful. Think of the many poor creatures almost within the sound of our voices who have but a crust to eat, and not a gleam of

brightness in the future, while there are many resources left to us; resources supplied by our intelligence, and by a certain trust in our Maker. Encourage no tendency to borrow trouble, to live in an anxious, brooding tone of mind, dreading possibilities or probabilities of need and suffering. Don't let that large organ of Cautiousness get the mastery of your practical judgment, my love, but endeavor to master its gloomy forebodings wherever suggested."

"It's hard, mamma, to conquer the gloomy thoughts which sometimes come into my mind. But I try ever so much to look on the bright side, and not to worry about things which have not taken place. Isn't it strange, mother, that we haven't received a word from the Mission?"

"I don't know, Sadie, that it is *strange*. There have been many applications, and it is likely that the committee has not had time enough to examine all of them. The gentlemen who transact the business relating to the management of institutions like the Mission, usually have a world of cares resting upon them, their own business, family matters, and various official connections, so that their time is filled with work of one kind or another, and they can not always respond at once to a call to attend a meeting. So it may be, that in this case engagements have prevented the committee from assembling this week."

"Really, mother, I don't count much on the appointment, after what the Secretary told you about the applications, but I don't like this being in suspense."

"I tell you," exclaimed Norton, who had come in while his elder sister was speaking, "if you don't get that teacher's place, Sadie, it won't be because Mr. Stanley isn't doing something about it. Yesterday when I went to Taylor & Stanley's there was a gentleman talking with him in the office who had a long black coat, and a great stiff collar, and white necktie such as ministers wear; and I heard him say to Mr. Stanley, 'He's got a woman in view, but I'll do my best for that girl.' And Mr. Stanley smiled and patted him on the shoulder, and said something in reply which I couldn't hear. You know he's not a loud talker. The other gentleman spoke very loud, just as most ministers do."

"It is because of the habit acquired by them when preaching or speaking to their congregations," said his mother.

"In a few minutes," went on Norton, "the minister left, and Mr. Stanley came out, said good-morning, and asked me if I knew the man who had just gone out. I said, No, sir. Then he said, 'That's the Rev. Dr. Phillips, one of the head men in charge of the Mission.' I said that I'd never seen him there, and Mr. Stanley told me that he was the pastor of one of the biggest churches in the city, and hadn't much time to spare outside of it on Sundays. And I'm sure that he'd been there to talk about the school."

"My children, don't be quite so ready to think that what deeply interests you other people must be interested in. But mother will be frank enough to say that she believes Mr. Stanley would not be slow to use an opportunity in behalf of Sadie."

"I love Mr. Stanley," said Dell, "he talks so nice to me. Don't you, Sadie and Nortie, love him?"

"You can bet I do," cried Norton. "But, mother, I didn't tell you all he said to me yesterday. He wanted to know if I'd go to school in the winter, and I said that I didn't know; that I studied some at home, mother setting the lessons, in arithmetic, geography, history, and language. Then he asked with a laugh if I could answer a question, and gave me this: 'If a pumpkin and a half cost a cent and a half, what would a dozen cost?' I answered, 'Twelve cents,' and then he said, 'I see I can't catch you.' I told him that I could cipher in fractions, and that you had taught me some short ways for multiplying some compound numbers. Then he asked me to multiply one and a half by one and a half, and I told him two and a quarter. He said: 'How quickly you calculated it! Tell me your method.' Why, I said, I multiplied one by two, and added a quarter. 'Well,' said he, 'multiply six and a half by six and a half.' I told him it would bring forty-two and a quarter, and that all compound numbers up to twenty, of which the fraction is a half, when multiplied by themselves, could

be done the same way; that if he multiplied the whole number by the next higher whole number, and added the quarter fraction, it would be the right product. He said that was a new idea to him, and if I kept on I'd become a great mathematician."

"I trust that you were not trying to appear smart, my son."

"No, mother, I only answered Mr. Stanley's questions, and when he stopped them I said Good-bye to him and came away."

"Nortie, I can say 'Three times one are three' now. Will you hear me?"

"I'd like to live with Mr. Stanley, wouldn't you, mamma?" inquired the little girl artlessly.

"Mr. Stanley lives with his sister, and has two little niece girls who love him," replied Mrs. Camp.

"Yes, mamma, but he has no nice home all his own," persisted the little girl, "and the little niece girls have a papa of their very own. Couldn't I be his little girl, if you, and Sadie, and Nortie, and Mr. Stanley all lived together? I think it would be very nice. And we wouldn't be here in this place."

MR. GAFF AND SADIE IN THE SHOP.

"Yes, Dell," and the little girl at once commenced to repeat that installment of the multiplication formula in such a rattling way that they all had to laugh. Dell, however, went through it, making only one mistake. "Three times eight are twenty-five," and when Norton corrected her, said:

"Oh, yes, I mean 'twenty-four,' but, Nortie, you know the number of Mr. Stanley's store is twenty-five, and when I think of twenty, five pops upon my tongue."

"I guess that we'll have to give Dell to Mr. Stanley," exclaimed Sadie.

"My darling, we can be happy anywhere, if we only accept the lot given us by God. Perhaps ere long we shall have more of the things we think pleasant. Let us wait patiently."

"If sister gets the school, and I get a place, then mamma will be rich enough to live up near Washington Square. I heard a boy say that real good rooms could be got up there in Macdougal Street for eight dollars a month, and a whole floor for twenty. How nice it would be so near that pretty park."

"Could I go into it and play, Nortie?" asked Dell, the thought of out-door enjoyment dancing in her eyes.

"Why, yes, it's a great public square, with big trees, and ever so many seats, and a splendid fountain in the center. I've been through it many a time, and there's most always a lot of girls and boys playing, and having great fun in it."

"Oh, I wish that we did live there! But I guess," the child continued thoughtfully, "if mamma can stay down here and be happy, Dell can too."

CHAPTER XXII.

THE JUNIOR PARTNER AGAIN.

THE edict had been published. Mr. Briggs at the close of a day's toil sullenly announced to the weary girls that "next Saturday night one-half of the hands would be discharged; old Blossom had ordered it, as they wasn't makin' enough to pay running expenses."

The next morning, shortly after work had begun, the junior partner came into the shop and walked slowly through the ranks of busy sewers, glancing at each in turn. All instinctively felt that he was singling out those who should be discharged, and eager eyes slyly watched his face as he proceeded. A light remark, accompanied with a smile (although Mr. Gaff's round and florid face usually wore a smile, especially when he was among the bindery hands), was taken as a happy omen for the girl to whom it was addressed. He lingered a moment to chaff with the Smalley girls, asking them his stock question, "Are you sewed fast yet?" and then approached Sadie's bench. Stopping there he remarked:

"I suppose you are sorry about the order Briggs gave yesterday? Well, we are sorry too; but it can't be helped. Business is going to nothing."

"Of course, sir, you must do what is best to keep the shop going."

"Yes. Blossom was at first for sending off all hands till we got in some fresh jobs, but then we considered that we had B——'s magazine and circulars anyway, and they would keep a dozen going two weeks in the month, and the other odds and ends might help float us if we shut down to half the force."

Mr. Gaff's confidential manner was certainly assuring; and as Sadie, like most of the shop girls, never discerned much in the man to command a deep respect for him, especially since his repeated invitations to drive to the Park with him, she replied in a tone which scarcely veiled the sarcasm she intended.

"Indeed you are kind to us, sir, knowing, as you must, that so many here are dependent for support altogether upon the wages paid them. Of course you will consider their circumstances and not discharge all of those who are so dependent."

"Oh, we will do the best we can. We'll keep the best of them; that's for our interest, you know. By the way," he continued, in a manner intended to convey the impression that for her interests he had, at any rate, an earnest regard, "you know Briggs has a good deal to do with deciding matters like this, and I see that on his list he's got your neighbor Betty's name as one to be marked off."

"Oh, I'm very sorry to hear that, sir."

"I knew you would be, and would just say here that if you'll show a little more consideration for the gentleman at your elbow I'll see that she's retained."

"How do you mean, Mr. Gaff?" asked Sadie quickly with deepening color.

"Only show a little acquiescence in my wishes and invitations when I make them."

Sadie made no reply, but her lowered face and trembling fingers indicated her emotion.

"What may I expect for this accommodation?" he insisted.

"I can do only that which my conscience and my mother shall approve, sir," replied the maiden emphatically, although in a half whisper.

"Oh! um!" muttered the junior partner, and walked away, with his hat on one side.

It was a rainy day, and Sadie had provided herself with what she needed for a dinner at the shop, and having leisurely disposed of it in the nooning, she went to

the foreman's little office and requested a few minutes' talk with him.

"Mr. Briggs," she said, "would you think me impertinent if I asked something about the reduction of hands?"

"I guess not," replied that worthy. "I needn't answer what isn't for any of the girls to know."

"Certainly not, Mr. Briggs. But perhaps you would tell me whether Betty Sniven is among the number to be discharged?"

"Well, you're a great friend of her'n, but if you'll say that you won't let on anything about it, I'll tell you what's up."

"You can depend upon me, Mr. Briggs."

The foreman was evidently nettled about something which had lately occurred, and Sadie's respectful demeanor in addressing him quite won him to confidence; so on the young girl's assurance he said:

"We had concluded to drop her 'mong others; but this mornin' Mr. Gaff told me that we'd better keep her on and let somebody else go in her place."

"Oh, I'm very glad, Betty is such a good hand; and there's her poor invalid father, who looks to her for a good part of the family's support."

"I don't know who'll go in her place yet. Gaff's in for sending off most of the fine hands, 'cause we have only coarse work, you know."

"Thank you, Mr. Briggs," said Sadie, and returned to her seat, and picked up a book with which she designed to fill out the remainder of the noon-spell. But she was not permitted to have her way, for half a dozen girls tripped over and eagerly asked:

"Say, who's a-going? Did Briggs tell you?"

"No, he did not tell me, girls, who are going."

"Didn't you ask him about yourself? Oh, I know you did," said a hoyden.

"No, Maria, I did not."

'Come, now, don't be so offish; let's know what he said."

"I merely went to speak to the foreman of a matter that is of no personal interest to any of you," replied Sadie, calmly.

"Oh, she thinks that she won't be discharged, of course," said one of the Smalleys, who had joined the group.

"I guess, Virgeenyer, that's what you're thinking yourself, as Gaff was so sweet on yer this morning!" exclaimed the hoyden.

Virgeenyer tossed her much-braided head and deigned no answer to this insinuation.

An excited cross-fire of personalities ensued, which Sadie interrupted quickly by saying:

"Really, girls, I think that my chances for staying are no better than any of yours; and the prospect is by no means a pleasant one for any of us, as we all need the little we get for our labor here."

"That, indeed, we do," rejoined several at once.

"And as we can't help it," went on the young counselor, "let's be patient, and put our trust in God to help us out of the trouble. Scolding and complaints don't mend a broken pitcher; but I've known mother to mend one my little sister had broken into five or six pieces with some cement, and it held water as well as before."

"Thrue for you," put in a bright, Irish hand; "it's not givin' up, but goin' quietly on and doin' yer best that helps one out of throubles."

"All very fine preachin'," rejoined another; "but I—"

Briggs' bell sounded the hour for resuming work, and the discussion was terminated.

CHAPTER XXIII.

SADIE'S LOSS AND GAIN.

THE walk homeward that evening was pursued by Betty and "Sal" (although in company) with very different feelings. The former appeared to have lost a good part of the practical philosophy which it was her wont to display, when the conversation turned on present condition and prospects, so that her allusions to the course of Messrs. Blossom & Gaff were tinctured with bitterness, and she expressed the expectation of being one of the "gals" who would be "counted out" Saturday night. She was "pretty sure of it, and then what

would she do?" Sadie, on the other hand, experienced an elasticity and a freedom mentally which were unaccountable to her, and sought to cheer up her despondent companion, representing the value of her experience to the firm, and her impression, which owed most of its strength to the noon-time talk with Briggs, that the foreman was too wise a man to turn out such a faithful hand. Betty's face, however, wore a rueful air when they parted at the old corner, and Sadie tripped on, and as she ascended the stairs of No. —, hummed a scrap of an air she had learned from the organ-grinder who perambulated that part of Prince Street nearly every night.

"Dell has somethin' for sister Say," was the salutation of the little girl soon after her "big sister" had entered, "and wants two great large kisses for it."

The kisses were given, and the mercenary child produced from under her apron a formidable-looking envelope, on which was addressed, in equally formidable characters, "Miss Sara J. Camp, care Mrs. L. Camp, No. — Prince Street, New York City."

"What's this, darling?" and Sadie hastily turned the document over, scanned the address two or three times, and then picked up her mother's scissors, which were lying with an unfinished article of dress on a chair, and neatly cut off a narrow strip of one end of the envelope and drew out a folded sheet of "legal cap."

"Must be important, mother!"

"Very likely; so much cover and such fine paper," replied that lady in a humorous tone.

"It's from the Mission, mother dear. Listen:

"'DEAR MISS CAMP: The Committee on Education of the —— Mission have examined your application to fill the vacancy now existing in our school, and have directed me to notify you to present yourself at this office next Monday morning at 8.30 A.M., prepared to commence the work of teaching class No. 2.

"E. HAMMOND, *Sec'y.*'"

"Oh, aint I glad, *aint* I glad!" shouted Dell, dancing around the room.

Sadie's large eyes were dimmed with joyful tears, and for a few moments she was unable to speak. As soon as she could command her countenance, she said:

"Mother dear, I had scarcely expected this; had you?"

"No, my love; yet I hoped for your sake."

"Oh!" cried the still dancing Dell, "I know'd she'd get it! I know'd it, for didn't Mr. Stanley say he'd help?"

"You sweet, little mischief, you seem to know more about matters than we who are so much older!" exclaimed the happy maiden, embracing and kissing the child.

"Mother, just think, to-day I had an interview with Mr. Briggs. I went to him to inquire about Betty. She was so dejected on account of the notice given yesterday, that I felt that I must do something in her behalf; and so I asked him if it would be improper to let me know whether or not Betty was to be sent away. On my assuring Briggs that I wouldn't impart the information to any of the girls, he intimated that she would be retained; and from his manner I concluded that there were some doubts about my own seat. Mother! I had made up my mind that if Betty were to be discharged and I kept, I would offer to go in her place, for they will have plenty of common or pamphlet work, and Betty is one of the best hands at that."

"A generous spirit, my dear girl," remarked Mrs. Camp. "I don't know what other prospect for dependence the Snivens' would have, for a time at least, besides public charity, if Betty should lose her place in the shop."

Norton here entered the room in his customary hop-skip-and-jump manner.

"Am I late, mother?"

"Yes, Norton, quite late."

"Well, mother, I've been over to Bumpy's —Larry's— I'm going to call him Larry after this, for that's his name; and I have commenced to teach him writing and arithmetic. I think he'd make a real smart man if he could go to school. Don't you, mother?"

"Yes, my son, I certainly do; and I am glad that you have decided to help him

toward an education. His vicious qualities are mainly due to improper associations and lack of training. But, Norton, don't forget your own habits of punctuality in your interest for Larry."

"No, mother, I wouldn't have been late to-night, but I mistook the time. I looked over at St. John's on the way home with Larry and read half-past five when it must have been twenty-five minutes past six. I'll look sharper next time. But seems to me something's up—Sadie, you look so happy. What is it, Dell?"

"Oh, I know, I know! Dell's going to school next Monday," half sang the child.

"I guess I know too," returned the sharp-witted boy, turning to his smiling, older sister. "Sadie's got the appointment. Jingo!—no, mamma, I didn't mean that—but isn't it good?"

"It is a very happy thing for us, my boy."

"I *knew* it would be so."

"You, too, were very sanguine about it; but, Nortie, it is not always wise to be *sure* in one's expectations when one doesn't control circumstances. It is right to be hopeful and look for good results when we are working toward an object, but over-confidence is not a healthful sentiment for one to cherish."

"But, mother, didn't I know, and didn't you know, that Mr. Stanley was taking Sadie's part?"

"You seem to think Mr. Stanley an all-powerful influence," replied his mother pleasantly.

"Well, he's such a nice man, I don't see how people can help doing what he asks them."

"People generally prefer to act in accordance with their own wishes and interests, and not to do what nice men ask of them," said Sadie sententiously, and with the air of one who knew something of the ways of the world.

"You are right, my love, to an extent," said Mrs. Camp, who observed the young girl's air with some amusement; "but when you shall have become better acquainted with the world, you will perceive that the great majority of people are controlled by a few dominant spirits, and do not practically carry their own wishes and aims into effect. But, Norton, you must be hungry; we've had our supper. You will find yours in the pantry."

"I've scarcely thought of it, mother. Although when I came in I was as hungry as a bear. I guess the good news must have taken my appetite away; but I must have a smell of the pantry."

"Mamma!" cried Dell, "won't you make a fruit pudding for Sunday, 'cause Say's going to teach in the Mission?"

"Yes, mother, do, to cele'rate the 'casion," mumbled Norton with his mouth full.

"And invite Larry and little Mickey—"

"And Betty's sick father. Yes, do, mamma," interrupted Sadie. "Why, mother, Mr. Sniven is actually getting better; has been out two or three times. Betty says it's all on account of the change in their diet. Since he's stopped eating meat, and commenced bathing and rubbing his limbs, the inflammation and swelling have subsided, and he feels like another man. He told me Tuesday morning, when I called for Betty, that he wouldn't give his breakfast of oatmeal and baked apples for all the roast beef and corned pork in the country, and that he believed it was the meat which he used to eat three times a day that kept up the heat in his blood."

"He was not far wrong. Rheumatic people shouldn't eat much, if any flesh meat, or anything that tends to heat abnormally the blood, and so excite the nervous system."

"It's funny that people who are sick will keep doing the very things that made them sick, isn't it, mother?"

"They are unacquainted with the causes, Norton."

"Well, they ought to learn."

"How *can* they learn, Nortie, unless they are instructed by those who are acquainted with the principles of physiology?" remonstrated Sadie.

"See here, Sadie, ain't one's health the most important thing? How's a fellow going to work and do what he should without being well? Then it's his duty to

learn how to keep himself well, and everybody should read about themselves in the books like what mother has; and the doctors and the ministers should teach people all about these things. If you'd see the things boys and men eat at the free lunches, you wouldn't wonder that they get sick so easy. Mother, I just think that the police should stop men from giving such mixed-up stuff to eat. Why, it's real poison."

Norton spoke with all the energy of his impulsive nature, and mother and sister couldn't forbear smiling at his enthusiasm.

"We'll have to make a missionary of Norton, won't we, mother?" said Sadie.

"Yes, a missionary of hygienic reform, which he can be, whatever his sphere."

(*To be continued.*)

H. S. D.

MY HOME KINDERGARTEN.

No. II.

DEFERENCE and respect for age, learning, and high character were taught Dora in her early youth. A thoughtless or careless disregard of the feelings and opinions of elders and superiors, marks the youth of the present day. During the last century, children were too much repressed, now they are too free. In three-fourths of the homes children hold the first place, instead of being in their natural position of second and subordinate. Petted and unduly indulged, vain and forward by being much noticed and praised, they make extravagant, conceited, selfish men and women.

I began early with Dora to teach her the right. If she had not obeyed promptly in every respect I was grave and distant with her; and, while not treating her unkindly, did not caress her in any way till she fully understood the cause, and how she could be restored to favor. A few such lessons were sufficient. Like all children, she must have some one to love and cling to, and when she felt that her offense withdrew attention and evidences of love, she was willing to ask pardon and refrain from offending. As soon as seemed practicable she was taught the existence of God. And by teaching her His power and goodness in providing for her the good and beautiful things of earth, and His sorrow at our forgetfulness or disregard of His commands, she became so impressed with His grand and lofty attributes and unvarying kindness, that from her sixth year she would think of God's disapproval or pleasure in her, as readily as she thought of her parents; and as this feeling increased with her years she feared doing wrong, and I had no difficulty in controlling her.

As an aid to self-government, I taught the child texts and rhymes embodying lessons of right and fear of wrong. She was never told stories of "naughty" children who were punished for wrong-doing of which she knew nothing, and in which, by the very tale, she would be instructed. But she was always incited to good by hearing of the good. Thus by sowing seeds of moral wheat, omitting tares, in these early years before opportunities of learning evil had come, I trusted to having the right attain a good growth, striking down deep roots heartwards before evil seeds should be scattered and spring up.

It is not possible to calculate how much less evil would exist in the world if all parents paid attention to the moral culture of their children. Christian parents, even, rarely teach their children about doing right, and trying to serve God by obeying them, pleasing one another, and doing to all as they wish to be done by. What is becoming, or fashionable, or expedient, in some worldly sense, is much more dwelt upon and oftener taught the young by those professing to have renounced "the world and its works," than what is just and right.

I continued teaching Dora fine hymns, verses, and poems for several years, till her memory was richly stored with the choicest gems of literature. The habit formed, she continued learning whatever pleased her, and now has a mine of poetical knowledge which she considers invaluable. A mother can make so much of these earliest child-

years, if so disposed; if not, the youthful mind may be left to the chance of being filled with the wild, foolish tales of ignorant servants and the slang phrases of the street.

Dora learned reading without tears or heart-ache, by lessons of a few minutes in length. Many children take a dislike to books and reading by being forced to study and learn what is not comprehended by them, or awakens no interest in their minds. Dora acquired the alphabet in a few days from blocks, by asking her to find A or O, or to pick up and bring M or D, and similar easy devices. Thence was a short step to arranging the blocks into words, names of animals, and household objects; thus, "line upon line," she learned the elements, and the delight of reading stories and finding out something new led on to proficiency. I took great pains, in connection with spelling, to teach the sounds of the letters, daily practicing the vocal elements, difficult consonant combinations, and syllables.

To read well is a noble, though rare accomplishment. All will not read equally well. Some have not, by nature, a melodious voice; others have not the capacity to understand thoroughly and appreciate all writers; some will not undertake the requisite study. But the great reason so few read well, is because they have been taught erroneously. The first sentences children spell out are in fragments; these should be read over to them again by the instructor, and they should repeat till they speak the whole easily and naturally. This course persevered in, though tedious to the instructor, will be successful. When a proper tone is gained, and the subject read is interesting, there will be no further trouble. The child will read as it speaks, and hence must read well.

One rule was invariable, that each bit of knowledge must be mastered before passing to anything else; it saved time and taught thoroughness. Ralph, who came to us two years after Dora's birth, claimed a share of my thoughts and time, but as I managed him in much the same way that had proved successful with Dora, the only trouble was to accommodate myself to the added noise of the nursery, and the additional demand upon my time.

Young children ought never to undertake many branches at once; they should have a necessary variety, but not enough to distract and divide the attention. From five to seven, Dora learned the alphabet, the spelling of some hundred short words, reading in words of one syllable, the notes and a few five-finger exercises upon the piano, and drawing of straight lines. These were given as amusements rather than as tasks, to please "mamma," or to show "papa." In this way the little creature acquired much necessary knowledge, without any irksome restraint or undue exertion of the mind. From seven to nine years of age my daughter had two daily lessons of fifteen minutes each at the piano, and the same time was given to reading music without the instrument. Twenty minutes daily was occupied with drawing, perhaps ten minutes were used in writing, half an hour each morning in reading, then spelling of every word in the lesson, and a talk about the subject read; thus two and a half hours were daily devoted to study. During these hours all save our books was laid aside, and every thought foreign to our occupation was excluded.

At nine years, Dora began arithmetic and composition. The school hours were increased to four.

In order that Dora might become as good a musician as possible, I began when she was but a babe to sing and play for her as long as she seemed pleased and interested; by thus accustoming her to the sounds of the instrument, her natural taste improved and by study she afterward became a correct musician. The custom of hearing music in childhood develops taste very much, and to ensure good fingering, practice is required while the muscles are pliant and easily trained.

Music, as usually taught, is of slight value as a means of intellectual culture. As the majority of girls learn it, it becomes too much an art and too little a science. They learn to finger a score or two of airs, schottisches, variations, and other popular trash, and their musical education ends. They have not sufficiently mastered the science to enable them to learn new music without a master; the music learned "gets old, and

old-fashioned." The piano remains closed for weeks, then months, and finally is disused altogether. The little musical education which their fingers received, and not their minds, slips away and soon they can no more play than the veriest tyro.

I taught Dora the rudiments of music myself; afterward she had a master. As my method succeeded well, I will describe it. First I taught the keys upon the piano. Then drawing a staff, I taught the child the notes upon the treble. And every day she copied it over and over in whole notes, in half and quarter notes, until she knew the line or space to which each letter belonged. During this time she practiced her left hand alone upon a finger exercise. This was done to strengthen the left hand and make it equal to the right.

When my pupil could read the bass and treble notes quite easily, and the left hand had become quite tractable, she played a little lesson of the very simplest finger exercises twice each day, keeping the same lesson a fortnight. This was continued during her seventh year. She had no large, formidable book before her, only a loose page or two, so that she never was discouraged by the amount yet to be learned. During her eighth year she learned something of chords, of reading with flats and sharps, and the easier scales. In her ninth year she began the "Method," and instead of being a dry, hateful task, her lesson was a pleasure and an amusement. After six months' farther practice she took a few easy airs in slow time. Many music pupils acquire bad fingering and utter disregard of time, accent, and expression, by trying to learn quick music before they have gained sufficient control of their fingers.

When she had gotten beyond me, I resigned my charge to a music-master who was competent to teach Mendelssohn, Mozart, and Beethoven, whose noble works elevate, purify, and educate the soul. Trashy music harms and debases the mind and morals equally as much as trashy reading does; and both should be carefully shunned. There are light, graceful, pleasing works of each sort, that may amuse and charm the soul when too weary and sad for anything deep and intricate; but for profit and lasting culture, one goes to the old masters in music, just as we go to the old sages, Shakespeare, Milton, Plato, Goethe, Dante, in books. Two or three terms in music amount to no more than two or three terms in reading would. Years of study in each science are required to give proficiency.

In the same thorough manner Dora learned drawing. The first year she made straight lines only—in every possible direction and combination. The next year circles and curves in all the various forms of leaves, fruit, and flowers, then outlines of the different pieces of furniture in use about the house. These exercises were all drawn upon the child's slate. In the fourth year of progress, Dora was furnished with pencil and paper, and copied drawings with shading, in connection with drawing from nature. When I felt I could no longer aid her, she passed to the instruction of an artist, whose first, last, and only models were made by the Great Artist himself.

The result of this careful training has been to fill our homes with pictures that are a source of enjoyment to all who see them, besides the endless store of pleasure Dora derives from the study of nature in all her various aspects, and the works of true artists. Undoubtedly more money is expended on music and drawing, with less satisfactory results, than upon any other two branches of learning, and this lack of success may be mainly attributed to want of proper elementary training.

The knowledge of drawing which boarding-school misses usually acquire is very slender. Instead of commencing with the straight line, and progressing gradually and surely, they are set to work upon a landscape or figure, and, after drawing and erasing, erasing and drawing, with much assistance from the teacher, they manage to produce some "pictures" which are forthwith framed in gilt and occupy a conspicuous position in "Mamma's drawing-room," and "Jennie," or "Gracie," or whatever "*ie*" she may be, could not, without the teacher's aid, make another passable copy, if life were the stake she worked

against. Such study of drawing is almost wholly worthless as a means of culture.

If drawing were taught in our schools as it should be, and especially in our public schools, where our embryo artisans and architects are educating, we should soon see a change in the designs of carpets and curtains and wall-paper, in the patterns of lawns and chintzes, in the forms of dishes, vases, and furniture, in the architecture of private residences and public buildings. In everything we should note improvement and receive added pleasure from every article of use or luxury. A knowledge of the proper combinations of color should early be taught to all children. Few persons know anything of the harmonies of color. Not one mother or teacher in a thousand ever directs the childish mind to see and appreciate the exquisite coloring of natural objects. The tender, soft, or divine blue of the sky, the golden, amber, and rose tints of sunset, the fleecy white of the clouds, the lovely and unnamed shades of foliage, the blaze of the autumnal hues, the holy coloring of the flowers are unnoted by, and unknown to, the sealed eyes of more than half the world. But a great part of the charm of Nature lies in her unrivaled colors, and as we ought to educate every soul to extract as much pleasure as possible from life, the greatest care should be taken from earliest youth to study, learn, see the gradations of hues, the blending or contrast of tints, the broad fields of color that Nature lays upon sky and wood and sea.

AMELIA V. PETIT.

INSPIRATION.

ARE we but harps, swept by some unseen Hand?
Flutes, hollow and mute before the magic Wind begins,
And after it has ceased, its play?
Organs, with pipes and keys all set to music's use,
But all unchanged from day to day
By any melodies, however grand,
The Master sounds through them?

Or are we conscious players, given the score
Of an unending symphony to learn and make alive
To every listening ear around—
Players whose clumsy fingering at the strings of sense and thought
Grows clear and skillful as the sound
Grows into harmony that more and more
Tunes us to its own key?

Are we not both? Fitted to give forth airs
We neither make, nor mar, nor weave into our conscious life;
But fitted also to run fast
And overtake the song that sings through us, and play its notes
Over and over, till at last
Our common life its crown of music wears,
While in our ears sound melodies beyond?

ANNA C. GARLIN.

NOVEL-READING.

IT'S quite wicked. People who have never read a novel in their lives say so, and they ought to know. No discriminating in this business; all novels are bad, and all novel-readers reprobates. And yet some of the highest resolves and holiest emotions of our heart were awakened by the pen of the skillful novelist.

"By their fruits ye shall know them." A tale that awakens not the finer feelings, but panders to the groveling tastes of the baser ingredients of mind, is one to be condemned as a bad companion, and its author to be banished from the reading circle.

While such a large majority of books and periodicals belong to the latter class, it does not cancel the fact that we could ill afford to make a bonfire of *all* the "light literature" extant. Some of it is heavier than our wise dissenters think. While with them we would cheerfully destroy ninety-nine popular novels out of a hundred, we would hold on to the hundredth and say, "Lay your fingers on it at your peril!" But we would welcome the day that should witness the publication of a sufficient number of fictitious works of the character of the surviving hundredth to take the place of the

smouldering ninety and nine. While in these novels we would suppress all the demons and adventurers, pirates and wreckers, whose attributes awake the evil of our own natures, we should certainly leave them open to the objection of being "love stories."

Not that love and marriage should be the alpha and omega of the tale, but a kind of golden thread woven in as a matter of course, to make things natural and the story readable. So much condemnation has the great mass of corrupt eruptions from the press called down on the cause of fiction, that many persons, more conscientious than wise, have taken it on themselves to denounce everything of a fictitious character, putting, as a test, the question, "Is it a love story?" I wonder how many people are extant who have no love story of their own to pour into the ear of a bosom friend in a confidential hour? How many people are there whose biography could be exhaustively written without embodying a few private theatricals?

A good novel merits our respect, because on it is employed the highest order of talent; also, as civilized beings are generally supposed to talk and write, there could be no more elegant criterion by which to be guided in these accomplishments than the language of a first-class novel. The graceful conversation of the heroines, the manly and gentlemanly sentiments of the heroes, the sharp wit and apt humor all around, give the reader an enchanting view of the beauties of conversation, excite a spirit of emulation, and give us higher ideals of moral and intellectual excellence than we should ever have dreamed of, had our reading been confined exclusively to prosy essays, history or biographies of "great and good" people, to whose heights it would seem like presumptuous folly for us to aspire.

MINNIE MYRTLE, JR.

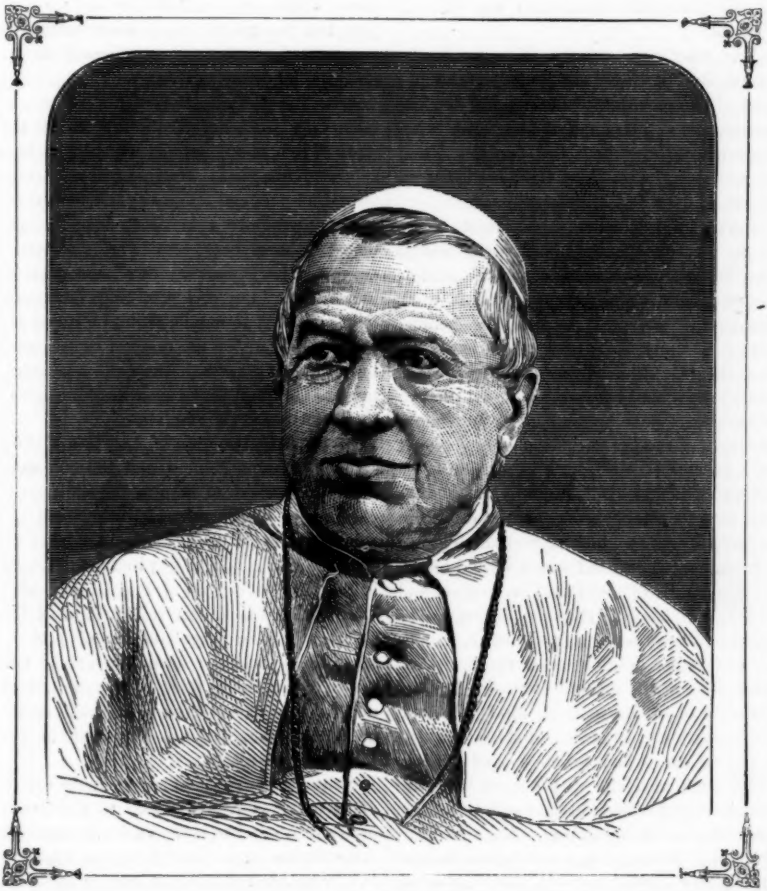
THE LATE POPE PIUS IX.

ON the 7th of February an event occurred which had been long expected, in fact since 1875. We refer to the death of Pope Pius the Ninth, the head of the Roman Catholic Church. He had occupied this high place for thirty-two years, a period replete with events of importance to the religious and political world. For upward of twenty-five years dissension and faction shook the Italian States, until Victor Emmanuel entered Rome as a king of a united country and the hierarchy of the Vatican was entirely shorn of its authority in temporal affairs.

John Mary Mastai-Ferretti, as he would be termed with Anglo-Saxon brevity, or Giovanni Maria Giovanni Battista Pietro Isidoro Mastai-Ferretti, as he was named after the fashion of Italian luxuriance, was born on the 13th of May, 1792, at Sinigaglia, on the west coast of Italy. He was the youngest of seven children born to the Count Girolamo Mastai-Ferretti. While a little child he was saved from drowning by a playmate. At a later day a violent form of epilepsy declared itself and brought him to death's door. Upon his partial recovery from this great infirmity his mother, impressed by the feeling of gratitude to heaven for his deliverance, devoted him to the service of the Church, and his studies were directed to this end. While visiting Rome as a young man he laid aside his clerical dress out of respect to the prejudices of Napoleon Bonaparte, who had just made his kinsman, Pope Pius VI., a prisoner. Napoleon conceived the purpose of forming a "Noble Guard," in whose ranks the aristocratic youth of Italy should be enrolled, and the names of the young ecclesiastic and his brothers appeared upon the list of the chosen. As soon as he was released from military duty he resumed his theological studies; yet his biographers generally have been misled by this circumstance to the assertion that he had once marked out for himself a military career. Being disabled, while pursuing his theological studies, by the frequent recurrence of epileptic fits, it was doubted if the state of his health would ever justify his ordination to the priesthood. But having performed a successful work among the country

folk about Sinigaglia as companion to Monsignore Odescalchi in a missionary tour in that quarter, his ordination as sub-deacon was celebrated, and in 1819 he was raised to the priesthood. In 1823 he accompanied Monsignore Muzi, the apostolic delegate to Chili, as his secretary, and labored to considerable purpose among the Indian tribes of the interior. On his return to Rome he became domestic prelate to Leo XII., and was named as Archbishop of Spoleto in 1827. Three years afterward he gained some notice as a diplomatist by inducing a body of four thousand insurgents to surrender their arms to him and obtaining their pardon from the authorities. In 1832 he was made Archbishop of Imola, and Cardinal in 1840.

His missionary experience in the new world appears to have wrought a marked



change in his health, as he was at this time in the possession of a robust frame and showed every appearance of vigor. His character is thus summed up by a writer: "He was careless in the use of money, of kindly temper, charitable to the poor, and inclined to the popular side in the conflicts

of the Italians with Austrian power. Though not in sympathy with revolution, he favored political reform. The Churchman had not wholly suppressed in him the Italian."

Pope Gregory XVI. died in 1846, and before any serious opposition could be brought to bear, Cardinal Mastai-Ferretti was elected to the pontifical office, with the title of Pius IX.

The time was critical. Discontent pervaded Europe, but Italy had griefs of her own. The partition of her territory by the conquerors of 1815, and the restoration of absolutism throughout the peninsula, had deepened in the minds of Italians the hatred of foreign rule and arbitrary power.

Pius, as a member of the moderate party in the Church, was not blind to the abuses that had attached themselves to the administrations of his predecessors, and his work among the lowlier classes of the people, taken in connection with his aristocratic lineage, gave him a view of the various phases presented by every proposed reform. He seems to have entered upon the thankless task of eradicating administrative evils with an enthusiasm born of a conviction of the excellence of his cause, and his first intent was to establish a constitutional form of government in which laymen should have a prominent share, and which should reconcile the claims of both Papal sovereignty and Italian patriotism. But the difficulties he had to contend with were immense, and as serious on the political as on the ecclesiastical side. The people demanded more liberal institutions than he thought it safe for his authority to grant. Indeed the tendency of his own reforms caused him to draw back, and the very council of state which he had himself aided to form became an element of opposition. Matters went from bad to worse, and revolution became the feature of the hour. Within two years after Ferretti's assumption of the tiara a mob had taken possession of the Eternal City and the Pope had been compelled to fly from his palace in the dress of a common priest.

From Gaëta, his place of refuge, he issued letters to the Roman Catholic sovereigns in Europe, reciting his wrongs and protesting against the revolutionary government. The response to these from Rome was the proclamation of a republic and the formal deposition of the Pope from his temporal authority. A French force landed at Civita Vecchia in April, 1849, and marched upon Rome, simultaneous invasions being made by Austria in the northern and by Spain in the southern provinces of Italy. The republicans surrendered the Holy City on the 1st of July, but, though the Papal government was restored, the Pope did not himself return until the following year.

With the re-occupation of his palace and official dignities, Ferreti did not resume the work of reform or liberality which had characterized his official activities, but he disavowed all personal animosity toward the insurgents who drove him into exile, and attested his forgiveness by declaring a partial amnesty; but, realizing that "progressive ideas" were dangerous playthings for a ruler unaccustomed to handle them, he was quite content to transfer the reins of government to the astute Cardinal Antonelli, his Secretary of Foreign Affairs, whose authority thenceforth was paramount.

In 1854 the dogma of the Immaculate Conception was defined and promulgated. The next important step in the ecclesiastical history of the administration was the calling of the Œcumenical Council of 1869–70, which, by a vote of 533 to 2, pronounced in favor of the dogma of Papal infallibility. The particulars of this session and of the defection of the large number of prelates and others, and the formation of the Old Catholic movement which followed it, need not be entered upon here, as their recent occurrence leaves them still fresh in the mind of most readers.

Neither is it expedient to repeat the march of events which gave Rome to the sword of Garibaldi and to King Victor Emmanuel. After the entrance of the King, the Pope, no longer able to exercise a dominant influence at courts and councils of States, withdrew from public notice and became familiarly known as "the prisoner of the Vatican."

During the last five or six years of his long life he suffered much from a disease which exhibited itself in ulcers or an eruption mainly affecting his lower limbs. His lack of physical activity doubtless had much to do with the trouble. It is remarkable that one

who had suffered from so grave a malady as epilepsy during the greater part of his youth should have so far recovered as to enjoy excellent health for more than fifty years. A constitution notably strong by inheritance must have been his, and the change of scene and activity furnished by his life in South America operated beneficially. Besides, we are told that his habits of eating and drinking were abstemiously regulated; that his diet consisted mainly of vegetable preparations, with fruit and very little wine; and this, in itself, would tend to relieve a nervous disorder which was susceptible of cure.

His head shows a fine cerebral organization, with a slight predominance of the perceptive elements of the intellect. There is a considerable breadth and fullness in the lateral regions, showing a large degree of the physico-mental element, and indicating ability to organize measures, energy to put them under way, and a good degree of circumspection and sagacity in their administration. The development of Benevolence appears to be large; so, too, is that of Agreeableness. In accordance with this class of organization his character is said to have been highly sympathetic, kind, and courteous, and many incidents are related which illustrate it. On one occasion a Protestant mother indignantly drew her child back as the Pope was about to bestow his benediction on it. "An old man's blessing," said Pius quietly, "can surely do the little one no harm." A lady who was suffering from a painful disease which her physician declared could be cured only by the amputation of her leg, sent for a stocking which had been worn by the Pope and had not been afterward washed. The precious garment effected, as she thought, a miraculous cure, and as soon as she could go, she hastened to Rome to thank the Holy Father. "The good God," said the old man, with a smile, "is kinder to you than to me. One of my stockings has been enough to remove your infirmity; I, who wear two constantly, am in as bad a plight as ever."

Literature, Mental Science, and Education.

True philosophy is a revelation of the Divine will manifested in creation; it harmonizes with all truth, and can not with impunity be neglected

BRAIN AND MIND.

CHAPTER III.

THE STRUCTURE OF THE BRAIN AND SKULL.

THE brain is the organized mass of soft matter which occupies the cavity of the skull; a line drawn from the outer angle of either eye, backward through the opening of the ear, and continued in that direction to the posterior region of the brain, will define practically its lower margin (See Fig. 11). It is composed of two substances, a white or medullary substance, which is fibrous or striated in texture, and a gray or cineritious substance, which enters mainly into the composition of the cortical or convoluted substance of the brain. This arrangement of folds or convolutions appears to be designed to give the gray matter a greater extent of surface (See Fig. 12). Gray matter is found in other parts of the brain and also in the interior of the spinal cord. In certain convolutions of the cortical surface there are three layers of gray matter, but generally there are but two. In the eye of the eagle the nervous surface of the retina is convoluted in form to give it greater intensity of vision, while

in animals of ordinary vision it presents a plane convex surface. In man who possesses the highest order of intelligence the convolutions of the brain are very numerous, but as we descend in the scale of being they become less and less marked, till in the inferior orders they disappear altogether. Even among individuals of the human race, although arranged upon a general plan, there is found a great difference in the number and depth of these convolutions and the quantity of gray substance, and this difference will be found to correspond

Hemispheres.—The brain is divided into two equal portions, called the right and left hemispheres, by the falciform or scythe-shaped process of the *dura-mater*, the membrane which lines the interior surface of the skull. This process extends downward about two-thirds of the depth of the brain, and runs through its entire length. The hemispheres are connected by the *corpus callosum*, a thick stratum of transverse fibers which penetrate into the substance of the hemispheres; and also by the *anterior commissure*, a rounded

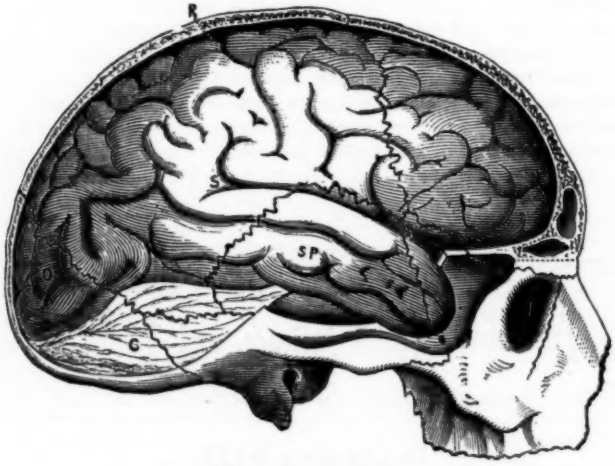


Fig. 11.—Brain in Skull.

Fig. 11.—Position of Brain in the Skull—showing their relations—from Turner. *S*, Fissure of Silvius; *R*, Fissure of Rolando; *S Q* marks the Temporal Region, the letters being on the mid-tempero-sphenoidal convolution; *O*, the Occipital Region; *C*, the Cerebellum. The irregular lines represent the course of the cranial sutures in relation to the brain.

with the degree of intelligence. From the fact that the extent of this cineritious matter bears a general relation to the intelligence manifested. it is inferred that this portion of the brain is specially concerned in the exercise of thought, while the medullary matter serves chiefly as a medium of communication.

cord of white fibers. Sir Charles Bell says that "whatever we observe on one side has a corresponding part on the other; and an exact resemblance and symmetry is preserved in all the lateral divisions of the brain. And so, if we take the proof of anatomy, we must admit that as the nerves are double and the organs of sense double, so is the brain double, and every sensation conveyed to the brain is conveyed to the two lateral parts, and the operations performed must be done in the two lateral portions at the same mo-

ment." There is a general resemblance between the two hemispheres of the brain, but not an exact symmetry as Sir Charles asserts. Professor Henry Gray, in his elaborate treatise on anatomy, says:

"In the child at birth, before the intellectual faculties are exercised, the convolutions have a very simple arrangement, presenting few undulations." What differences there are, then, in the brains of different men may be assigned to their varying degrees of capacity and culture; and the lack of entire correspondence between the hemispheres of the mature brain, may be assigned to the larger share of exercise which the organs of one, usually the left, has in the affairs of human life.

The Lobes. — Each hemisphere is divided by anatomists into three parts, entitled the anterior, middle, and posterior lobes. The lines of separation between these are well-marked only on the under side of the brain, and extend across the hemispheres. In the anterior lobe the intellectual organs reside, while the greater part of the middle lobe is occupied by the propensities, and in the posterior lobe are the social and domestic feelings. Some of the later anatomists, like Gratiolet, Turner, Huxley, and others, finding the old mapping too indefinite, have adopted a division into five lobes, which are named the frontal, parietal, temporo-sphenoidal, occipital, and central, which are bounded by fissures more or less defined. Four of these come in contact with the skull; the last or central is interior, and corresponds to the region known as the Island of Reil.

Cerebrum and Cerebellum.—Beside the e divisions, the brain is constituted of two general parts, the cerebrum and the cerebellum, or the great brain and the little brain, which in the adult head bear the relation in point of size of one to seven or eight. The cerebellum lies directly under the posterior portion of the cerebrum, from which it is separated by a strong membrane proceeding from the *dura-mater*, called the *tentorium*. In some animals these two parts of the brain are separated by a thin plate of bone. The cerebellum is not convoluted like the cerebrum, but its surface

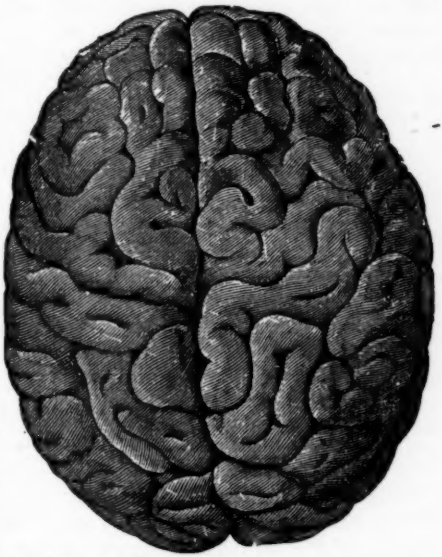


Fig. 12.—View of Brain from above, showing the Convolutions.

is traversed by many curved furrows which vary in depth. The cerebrum and the cerebellum, as well as all other parts of the brain, are united by the *pons varolii*, a broad mass of fibers mingled with gray matter which lies under and between the hemispheres, immediately above the *medulla oblongata*, the capital of the spinal column. From the medulla oblongata as a radial point, the medullary fibers proceed to all parts of the

encephalon, hence this part of the nervous organism is the medium of communication between the brain and the body.

Organic Development — To Estimate It.—The different organs or centers of mental function may be said to have their origin in the medulla oblongata, and to correspond in size or development with the length of their fibers. The size, then, of a mental organ may be estimated by the distance of its place in the brain cortex from the medulla oblongata. The greater this distance, the greater the expansion and depth of the organ. A line projected from the

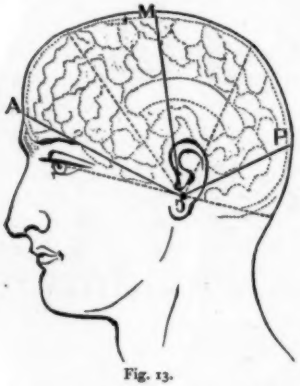


Fig. 13.

opening of one ear to that of the other through the head will pass through the anterior of the medulla oblongata, so that in the living head we may take the opening of the ear as the center or starting point in the measurement of organs. Let *C* in Fig. 13 denote the opening of the ear, then *C A* will indicate the development of the brain anteriorly; *C M* its development in the upper or coronal region, and *C P* its posterior extension. The point *A* being near the lower margin of the perceptive group of the intellectual organs, the length of the line *C A* indicates the size of the perceptive organs as compared with the other organs of the intellect, and also shows the development of the intellectual group as compared with the moral group which may be estimated from the line *C M*, and as compared with the social group of organs which is indicated by *C P*. The breadth of the head and its fullness in the lower lateral regions furnish data for the estimation of the self-protective group. The point *C* being located in the medulla oblongata, imaginary lines may be drawn from it to all parts of the surface of the head under examination, and from their respective lengths the development of the brain parts or mental organs at the outer termini of the lines may be estimated.

The brain, which is the center of all feeling, is itself quite insensitive. If the integuments of the brain were removed, its substance might be taken out like custard; and if care were taken not to press downward upon the *medulla oblongata*, no pain would be experienced.

The circulatory system of the brain is very complete, and adapted to supply it with an unusual amount of blood. According to Haller, one-fifth of all the blood which leaves the heart goes to the brain; Munro, however, estimates it at one-tenth.

The Membranes.—Between the external surface of the brain and the internal surface of the skull three distinct membranes are interposed. That next the brain, called the *pia-mater*, is a very thin, transparent, and delicate membrane, which sinks down into the folds of the convolutions and serves as a conveyance for the blood-vessels. Above the pia-mater are two layers of a still thinner membrane, called *tunica arachnoidea* because of its resemblance to a spider's web. From the opposed surfaces of these two layers a fluid secretion takes place which lubricates

them, and prevents them from adhering to each other. The third and outermost integument of the brain is the *dura-mater*. It is a thin, but strong and opaque membrane lining, and adhering strongly to the inner surface of the skull. It is not unlike in appearance and function to the skin of an egg. It secretes the bony material of the skull. If the entire skull of a healthy man could be removed in such a manner as to leave the dura-mater unimpaired, the latter would begin at once to form new bone, and would continue the process until a new skull had been formed. From this it will appear that the hard substance of the skull is subject to the softer parts within it and serves to protect them. The process of absorption and deposition is going on in the substance of the skull continually, and any marked change in the form and size of the brain is indicated usually on the surface of the cranium. The skull adapts itself to the growth of the brain from infancy to maturity, and in old age or disease it suffers a diminution corresponding to the decrease of brain. In cases of hydrocephalus, or dropsy of the brain, when the progress of the disease is slow, so as to allow time for the deposition of bony material, the skull sometimes grows to an enormous size.

Bones of the Skull.—The bones of the skull which envelope the brain are eight: One Frontal; two Parietal; two Temporal; one Occipital; one Sphenoid; and one Ethmoid. These bones are united to one another in a very firm manner by a sort of dove-tailing, in which the ragged edges of one bone fit exactly those of the adjoining bone. The seams which are formed by this union of the bones are called sutures. (See Fig. 14.)

The *Frontal* bone forms the forehead a part of the roof of the nostrils, and the orbits of the eyes. In early life it is made up of two principal bones, which gradually grow together. Sometimes, however, it remains double through life. Joined to the frontal bone by the *Coronal* suture, running over the top of the head, are the two *Parietal* (side) bones, which form the greater part of the upper and lateral portions of the skull. The line of union between these two bones is known as the *Sagittal* (arrow-like) suture.

Fig. 14.—Bones of the Skull.

Fig. 14.—Bones of the Skull—lateral view. 1, Frontal Bone; 2, Parietal; 3, Occipital; 4, Temporal, with the Sphenoid attached on its anterior border; 5, Nasal; 6, Malar; 7, Superior Maxillary; 8, Ethmoid; 9, Inferior Maxillary.

The *Temporal* bones are located at the sides of the skull, around the ears, and are joined to the parietal and occipital bones by sutures. The lower back part of these bones forms the projection directly behind the ear, which is called the *mastoid* process. The *Occipital* bone forms the base and back part of the cranium, immediately above the neck. It is joined to the two parietal bones by what is called, from its resemblance in shape to the Greek letter Lambda, the *lambdoidal* suture. In the central region of this bone a pro-

tuberance is found, which is known as the occipital spine.

The *Sphenoid*, or wedge-like bone, is situated in the anterio-inferior part of the basilar region. And the *Ethmoid* (meaning sieve-like) is a cellular bone, situated between the orbits at the root of the nose.

The greater part of the skull is made up of two plates, between which is interposed a honeycomb substance called the *diploë*, through which small blood-vessels course to different parts of the skull. The diploë is of nearly uniform thickness, so that the two tables of the skull are nearly parallel.

Sir Charles Bell observes that "the bones of the head are moulded to the brain, and the peculiar shapes of the bones of the head are determined by the original peculiarity in the shape of the brain." There are, however, certain parts of the skull which are thicker or thinner than other parts, and certain integuments which offer a slight obstacle in the way of estimating the size of some of the organs from the external development. Every skull is thinner at the squamous or scaly portion of the temporal bones, and in the super-orbitar plates which form the roofs of the sockets of the eyes; and it is thicker at the ridges of the frontal bone and at the sutures than at other parts of the skull. The occipital spine and the mastoid processes are also prominences on the skull which are not indicative of the size of the brain beneath; but these ridges and prominences are generally abrupt and angular, and easily distinguished from the broad, rounded swell corresponding to cerebral development. The integuments which cover the skull are of a uniform thickness, except at the occiput and the temples. Experience will enable the practical student to detect and make due allowance for variations in the thickness of the skull, as they depend much upon temperament, and do not form very serious obstacles to obtaining a sufficiently accurate idea of the size of the organs from the shape of the skull.

There are instances in disease and old age, however, in which it is difficult to discover the form of the brain from the form of the skull; but experience and observation on the part of the examiner will guide him safely in dealing with such cases. The bone of the skull becomes thin over organs which are energetically and persistently exercised, and the higher temperature at such portions of the brain, as well as their size, affords a clew in estimating the power of the organs.

Frontal Sinus. — Besides these peculiarities of modification to which the brain and skull are subject, there is the much mooted difficulty of the *frontal sinuses*, which the opponents of Phrenology have made much of as an obstacle in the way of delineating character from the surface of the head. The *frontal sinuses* are small cavities in the frontal bone near the root of the nose, formed by the separation of the two plates of the skull (See Fig. 11). They are deemed by some a kind of sounding-board for the voice, but do not extend up above the base of the brain till about the time that the voice changes. Up to this period they form no obstacle in estimating the size of the organs situated behind them. After this period, however, they extend upward, and may cause some uncertainty in regard to the size of three or four organs located in their vicinity, as they are by no means constant in dimensions, being dependent upon the person's temperament. They should, however, be confined in their influence to the three or four organs located behind them. To argue as some have

done, particularly Sir William Hamilton, that the existence of a *frontal sinus* is an insuperable objection to Phrenology in general is, as Mr. Combe has well remarked, about as logical as to speak of a snow-storm in Norway obstructing the highway from Edinburgh to London. In fact, the difficulties which the frontal sinuses oppose to the exact estimation of the size of the few organs located immediately behind them may be overcome to a very great extent by practice and observation. The voice and the bony structure of the individual afford indications of their size, and where a prominence exists on the skull from a large frontal sinus, the elevations are abrupt and ridgy, and lack the even swell which is indicative of cerebral development. It should be remembered in estimating the extent of the sinuses to obtain an approximate idea of the form of the brain from the contour of the skull, that the difference in parallelism between the external and the internal tables of the skull is usually insignificant when compared with the difference between a large and small organic development. In most of the former cases the difference rarely exceeds one-eighth of an inch, while the difference between a large and small development of the organs and sentiments may amount to more than an inch. The difficulties presented by the sinuses, therefore, do not invalidate the general correctness of the phrenological mode of investigation, since in extreme cases they are practically inoperative. As Dr. Gall was led to the discovery of Phrenology by observing the concomitance of certain strongly marked mental characteristics with an unusual development of certain portions of the brain, so should the mental organs be tested by similar cases whenever the integrity of the system is brought into question.

* * * * *

CAPACITY OF GROWTH.

IN the transmission of physical qualities, it is held that no one inherits any disease, but only a tendency thereto which circumstance may bring into action. This is drawing a fine line of distinction; but in studying man in his mental aspect, we may conclude that the child inherits nothing from his ancestors but the tendency and capacity to attain a certain definite degree of mental progress, a point perhaps slightly in advance of the stage reached by the parent; and an ability to acquire speedily the accumulated experience of the race, from the teaching and intercourse of those about him.

A child thrown by himself upon an uninhabited island, supposing him from a variety of fortunate circumstances to survive destruction, would display but few marks of intelligence above those of the animals about him. The capacities which favoring environment would have called into active exercise would lie dormant and only the basic faculties of life be called into play.

The growth of the individual is possible only under the cumulative force of the race exerted upon him, and this force reacts again in pushing on the race. Man, or any small collection of men, isolated from the mass, speedily deteriorates. The higher the development the speedier the deterioration, as the greater the complexity of the molecules the less stable the equilibrium and the quicker the atomic disintegration.

It would be interesting in this connection to study the force and character of such a retrograde development; and, at what point, and through what means it would be arrested, and the normal advance begin again. In such a check, and the consequent returning upward growth, reversion to the ancestral type would be a potent factor; the innate capacity being obscured, not lost. The occurrence in such a community, of an individual possessed of more than the communal mental attainment would form a nucleus, and point of departure, in the development of a new and independent civilization.

U.

CONDIMENTS.

Province of Taste—The Stomach—Over-eating—The Theory of Condimenting—Influence upon Taste—Nature's Seasoning—The Flow of Gastric Juice—True Nature of a Condiment—Desire for Drink.

IT is a prime principle in dietetics, that our food should taste good. This most people will admit. Indeed, we fear that this is the only principle recognized by a large majority. There may, indeed, be a sort of tacit understanding that their food shall not kill them outright, but no guarantee whatever that it shall not kill them by degrees. We have heretofore spoken of the

PROVINCE OF TASTE,

and described the part it plays in the digestion of food. We think it evidently the design of nature that man, by means especially of the organs of smell and taste, as well as by the efforts of his reasoning powers, should be able to make very nice discriminations with regard to the quality of his food. And further, that the taste should be able as a legitimate function to call up the various organs of alimentation and co-ordinate their action so that the saliva shall flow freely when it is wanted; that all the muscles of ingestion shall be ready to give harmonious progress to the masticated and insalivated bolus; that the stomach receive it graciously, and making its best bow, take it around at once on a tour of introduction to the gastric follicles, each of which shall have ready its contribution of acids or pepsine for the new comer, which the muscles shall then wheel one side to make ready for the next bolus. And just here make note, that if there were no pleasant taste in the mouth to detain the next portion, it might come rushing down before the first were properly disposed of. So we see that it is not only allowable that we should take pleasure in the food we are masticating, but it is almost indispensable that we should do so in order to marshal the different processes and the action of the different organs in their proper order. If the man of business forgets to enjoy his food as he eats it, and hurries it down before the orderly stomach is ready to receive it, derangement follows and indigestion results as a necessary consequence.

THE STOMACH

is not a shapeless, lifeless scrap-bag, into which we may throw all sorts of things pell-mell, just when we take the notion. It is far more like an orderly and well-arranged work-shop, with workmen who have a just sense of the importance of their duties and who are ever striving to perform them according to the laws of action in which they have been trained in spite of continual thwarting. The brain, the powerful will can not entirely control it; does not, indeed, have much idea of its motions; and since we can not see them, it is the province of taste to harmonize the voluntary supply without to the orderly motions within. It is really wonderful to see the number and importance of the organs, voluntary and involuntary, which taste thus rallies. Properly, we might begin with the outward organs, the

hands which act, the feet which often run at its bidding; indeed, we might tell of commerce and manufacture enlisted for its gratification in many a case where they are not needed and would not be used to supply mere alimentation. But passing these, we will speak only of its more immediate behests upon glands and teeth, lips, tongue, and œsophagus, gastric juice and follicles, and all the muscles necessary to their successful working, beside the blood supply that must come to them all. And when we consider the engrossing character of the work which precludes almost every other collateral employment, we may well say that for the time being, taste properly controls the man. And if we pay proper heed to its behests for legitimate purposes, it will lead us in very pleasant paths. But if we eat for the sake of taste, we pervert the whole economy of nature and dire confusion ensues. We take our faithful housekeeper from her proper place in the establishment; we trick her out with costly and fantastic drapery; we intoxicate her senses and pervert her judgment so that she neglects her proper work; she consents to take for herself that which should have been taken only for the stomach, regardless of the wants and the welfare of the department which had been placed under her control. But apt as our comparison seems to us, we will leave the reader to carry it out according to his fancy, while we inquire in what way this is usually done. Formerly it was done by

OVER-EATING

of foods in their natural condition. The early races of men were prone to gluttony. They indulged in the pleasures of taste by repetition, and ate to repletion, especially of animal food. Accounts of the quantities which the heroes of antiquity thought suitable to set before their guests as well as the portions devoured by themselves are incredible, if we judge them by ourselves. The ordinary meal of Milo of Crotona was about fifteen pounds of meat and an equal quantity of bread. Athenæus bantered him to try which could soonest devour a whole ox, and Milo completed the task in one day. Theogenes of Thasos performed a like exploit. If he had been fed thus upon the shortened and condimented food of the present day, it would soon have proved fatal. As it was, the race has broken down its ability to perform such feats. Gluttony, of itself, would have that tendency, and the addition of condiments would hasten the result. But as men became civilized, their greediness took new shapes, and it affords another illustration of the fact that refinement in vice does not lessen its viciousness. They found that they could concentrate flavors, get more flavor in proportion to the food, or intensify the sensation by the addition of pungent articles which were not food. They ignored the great fundamental principle that the use of flavor in food was to make it agreeable, acceptable, and digestible. They would have the agreeable without regard to the digestible, for this is

THE THEORY OF CONDIMENTING,

to increase the intensity of the taste. Those who do this, either do not know or do not care that by so doing they destroy the natural properties of food, and its harmonious relations to the human system. If there is any food naturally suited to the needs of man, of course it excites the action of taste to just the degree required by the needs of the system, and under its influence all the organs of digestion and alimentation work harmoniously and produce favorable results. The professed object is to make food relish. Let us see how far this is accomplished.

INFLUENCE UPON TASTE.

At first a natural and healthful taste rejects unnatural flavors and biting condiments. But use soon makes them agreeable, while their intensity dulls the delicacy of the taste so that it can not readily perceive natural flavors, and a return to them becomes difficult. The tendency is to season more and more, until it has come to pass that scarcely any kind of food is taken in its natural condition. Fresh fruits are about the only exception to this degeneracy, though they are very often strewn with sugar, and I have seen musk-melons defiled with pepper and salt.

The question which we are obliged to consider first, is whether this practice of condimenting really increases the pleasures

of taste. The popular conviction is that it does. We hear it in the assurance, "You can not eat that, it has not been seasoned!" We see it in the seasoning of the pap for the smallest infant, "just enough to make it palatable, you know;" and they can not understand the scowl on the tiny face, and the rejecting pout, and so it is again thrust upon the little innocent, and he grows up with a *seasoned* taste like all the rest.

But if enjoyment of the pleasures of taste is the object pursued, the tendency is to increase the quantity or the intensity of the condiment. Hence, we see so many adding salt and pepper and mustard to their meats, devouring horseradish with their bread and butter, or munching radishes, two vegetables so crude and biting that all other animals but man reject them; putting cayenne in their soups and catchups and various other dishes, and using a great variety of strong, biting, and hurtful spices. Remonstrate, and you are met with the assurance that they could not enjoy food without them; nay, they could not eat it, it would be utterly repugnant to them; if they could crowd it down, it would not relish, and they could not digest it.

When it comes to this pass, the infatuated being has more or less of dyspepsia, and will soon be unable to digest anything with pleasure or comfort. Contrast his condition with that of one who uses few or no condiments. Observe his hearty relish and his ready digestion, his clear eye and his elastic vigor. Ask him if he enjoys his food, and he may reply as the Scotchman did about his brose. A visitor inquired what he usually had for breakfast.

"Brose, of course."

And receiving a similar reply to his questions about dinner and supper, he inquired if he did not get tired of oatmeal, having it three times a day. Sandy now began to think the stranger was quizzing, and he called out to another Highlander, "Say, McDonald, here's a mon that wants to know if I'm not tired of my mate!" To him it was a sweet and satisfying daily food, and though we who do not have his out-door exercise and mountain air, might need a greater variety, it does not follow that we need to mix it with indigestibles.

NATURE'S SEASONING.

If any one would like to know how nature has seasoned our food to meet our real needs, let him cease to add other seasonings for a while, and he will find a delicacy and a sweetness never dreamed of in his highly-seasoned dishes; and, above all, a delightful sense of satisfaction pervading his entire being after a moderate meal of unseasoned food that he never experienced with his highly-seasoned dishes. It is a favorite theory with many, that condiments are necessary in order to excite a ready flow of saliva and gastric juice. But this is a theory that will not bear the test of experience. It is the common testimony of those who have quite given up the use of condiments that the flow of these necessary juices is far more free than it ever was under the old habit; that often during mastication the saliva will pour out in a stream so free and limpid that if the position of the mouth permit, the minute drops can be caught upon a sheet of paper—a phenomenon seldom or never witnessed until they returned to the more normal diet. As to the pleasures of taste, never were they so refined, never had food tasted so good to them, much of which was due to their superior health.* Now the strong condiments are repulsive to them. The lesser condiments might be attractive; but if they indulged, it is invariably to their own disadvantage. It is supposed that

THE FLOW OF GASTRIC JUICE

is regulated by the needs of the system, that just enough is secreted to digest the food necessary to supply those wants. The use of condiments often induces us to take more food than the gastric juice can digest, in which case it sours in the stomach, causing irritation and derangement, and if the practice be continued, serious disease. But if, as some think, and as is possibly true in some cases, condiments do increase the flow of the gastric juice beyond that demanded by natural food, then the organ is overtaxed and afterward suffers for it, or other parts of the system, and especially the brain, suffer from the drain upon the blood,

and the man transfers his vigor from the latter organ to the former. Instead of an intellectual being, he becomes a gourmand, a glutton, noted for the size of his stomach rather than for the activity of his brain. But if it be argued that condiments might be used with advantage temporarily to excite to action sluggish or torpid digestion, it must be truthfully answered that the probabilities are against it. They are much more likely to do harm than good. The demands of the system will call upon this organ to do its duty far more emphatically than any foreign substance could do it.

"What then?" some one will ask; "are we never to mingle flavors or foods?" Really this does not follow. The mingling of wholesome foods may not impair their wholesomeness if we are sufficiently self-controlled not to be led away by variety into greediness.

"But," says another, "I season my sour apples with sweet ones and they make a wholesome sauce." Very likely, but that is not what we mean by condimenting. It may improve their taste; and there are many other ways in which we may innocently improve the taste of wholesome food without putting into it a substance which is unwholesome. The test we would recommend is to see whether you can eat the so-called condiment freely by itself—make a meal of it without bad results. Try this rule on cayenne, mustard, vinegar, oil, horseradish, pepper, all-spice, cinnamon, cloves, ginger, and a host of other things that we use as condiments. A very large share of them would be rejected at once *with tears*, or if forced down, would make us sick. By what rule can we prove that these things are fit to eat? If they are rejected by the organs as hurtful when they come in their own character undisguised, by what right do we disguise them in the garb of what the organs must recognize as wholesome food, and by this unnatural mixture deceive the faithful guardians of the avenues of life?

TRUE NATURE OF A CONDIMENT.

We do not insist upon this as a criterion with regard to condiments, but we ask you to judge for yourself whether it is safe thus to smuggle into the system that which has been so decidedly rejected as hurtful. You have put it indeed beyond your ken, and how can you say what mischief it is doing? Certainly it is a very ticklish hiding-place. Of one thing you may be certain, if the system could have used it to good purpose, it would not have so persistently rejected it; and now that you have smuggled it in, you have imposed upon the delicate internal organs the difficult task of separating and expelling that which they can not use, and they will be more seriously injured by this task than the external organs are by refusing the raw unmixed material. One curious proof of this comes in the constant

DESIRE FOR DRINK

of some kind that ever accompanies this use of condiments. One who does not use condiments may easily assuage his thirst and satisfy the demands of the system for fluids with the bland and delicious juices of fruits during a large part of the year, while one who uses condiments freely is often tormented by a thirst which must have drink and sometimes calls for stronger drink than water. There is little doubt that some drunkards are made in this way, and especially as pure water is not always as easily obtainable as alcoholic drinks. But this is only one of many conditions which make it easy for a man to fall a victim to the use of intoxicants; and the greatest of all is that love of excitement and self-indulgence which underlies both the fondness for condiments and for alcoholic drinks. With the mass of men there is little hope that if we can not get them to see the mischief there is in alcohol, they will see the harm done by condiments. So while we seek for ourselves the best conditions possible, let us not neglect to take others where we find them and bring them up step by step to higher and purer modes of living.

JULIA COLMAN.

SPECKS BEFORE THE EYES.—Cease to trouble yourself about the specks and you will probably not notice them, especially if you find something to do and keep yourself in as good health as you can.

A NEW EMPLOYMENT FOR AMERICAN WOMEN.

AN article recently published in *Harper's Bazar*, and entitled "Woman's Pedicures and Manicures in Paris," was doubtless read by many with considerable interest, as it pointed to a sphere of employment in which American women might find useful and remunerative activity. The writer sketches the personale and skillful treatment of a feminine pedicure, whom she engaged to perform the services which would be rendered by a professional chiropodist in this country, and who, for the insignificant sum of forty *sous*, furnished her "with a bran-new pair of feet, when she got up and prepared to walk off on them."

Then she proceeds to describe the office and equipment of a "manicure," to whom she went for curiosity's sake and for an item or two.

"After a tedious waiting, my turn at length came, and I seated myself by the manicure's little table, upon which were scattered the tools of her trade. These were scissors and knives of a shape specially devised for the trimming of the nails; files, nail-cleaners, a small basin of rose-water with a bit of soap near it, a tiny towel of linen cambric, a bit of lemon, and various polishing powders and sweet-smelling unguents in the form of ruby-colored pomades. The first step in her proceedings was to wash off the finger-tips carefully, then to dry them, after assuring herself that there were no ink spots or other stain upon them. Then she clipped and trimmed the nails into the approved filbert shape, neither too short nor too long, nor too pointed nor too broad; the 'half-moons' at the base of the nails were gently brought into clear light; all 'hang-nails' were amputated; and after this she rubbed a coral-colored pomade of a delicious odor upon the nails and the upper part of all the fingers. After allowing this to remain a little while she wiped it off again, and scattered upon the nails a golden brownish powder, which she vigorously rubbed with the whole length of her powerful forefinger, occasionally aided by the palm. More pomade, more powder, more rubbing, and then the nails were shown with that beautiful gleam upon them, that pearly pinkness, seen in the interior of some delicate sea-shells. As the pedicure had said, the manicure's manipulations greatly 'advantaged' a pretty hand, but even in a greater degree advantaged an ugly one.

"The manicure, like the pedicure, charged forty *sous* for a sitting, that is, at her own rooms. When she did the visiting, her price was a dollar. That she found her business lucrative was sufficiently indicated by her handsome rooms and her prosperous appearance."

As in Paris, there are many people of wealth and luxurious disposition in our large cities who would readily avail themselves of the attentions of a manicure, and it is in the nature of things that the establishment of such an art in America would have a tendency to improve the manual habits, so far as neatness is concerned, of our people at large.

HOW DOES BEER WORK?

NO part of the object of this writing is to indicate the fermenting process of beer. The chemist and brewer could better expound that aspect of the "beer question." To indicate and illustrate the resultant *working* of this popular beverage upon the human organism, *is* my purpose. No intelligent mind will question that beers, of whatever name or make, contain alcohol more or less. For this chiefly, if not solely, is beer sought. But for the stimulating or narcotizing effects few would use it. What are its essential ingredients? A witty minister once replied to this query thus: "Ten per cent. alcohol (or devil) and ninety per cent. poor swill." Eliminate the former, and no one will doubt, on trial, as to the insipid meanness of the "ninety per cent."

After much thought, inquiry, and observation, my conviction has become ripe:

that beer or *bier* is by far the most mischievous and disastrous in its effects of all the alcoholic drinks, (1) because most generally used, and (2) because cheapest and most deceptive.

The Germans, who brought to us the wretched mania for their nauseous "lager-bier," threaten to become the most drunken, as they are the *largest* drinking, part of our population. Already the sad and ruinous effects can be seen on every side. The physiological principle underlying this fact and peril is very clear.

The almost universal use of beers by the Germans—from infancy, with many—forms and cherishes the appetite for stimulants. Who has not seen babes of one and a half years old, or even younger, sitting by their parents in the "gardens," or on board excursion steamboats, with immense "schooners" of lager? These tiny things will drink till literally drunk! Why should not these children, if so unfortunate as to live, become drunkards? Many inevitably will; many have. This result is more certain in this country than in "Fatherland," and for three well-defined reasons:

1st, Climatic influence; 2d, Assimilation to American habits and temperament; and these two almost necessitate the 3d, viz., The increased percentage of alcohol in the beers, and, by degrees, whisky instead of lager. These processes are constantly going on, and the writer has called the attention of German Christians and philanthropists to these facts and tendencies.

Not to enter upon the philosophy of climatic influence, it is well ascertained that climate has much to do with the demand for stimulants and their effects. Whatever may be true of Continental Europe, it is certain that the peoples of the British Isles and of the United States can never be *satisfied* with the milder alcoholics. As surely as cause produces effect, multitudes of the more nervous temperament, and in constantly-increasing numbers, drift inevitably from wine and beer to brandy and whisky. Germans and other nationalities of heavier and more phlegmatic organizations, by the second generation become Americanized, more excitable, more intense.

Go with me on "'Change." It is a day of fluctuating values in stocks. See those two young men among the mob-like mass. Perhaps one a "bear," the other a "bull;" the one a Yankee, the other an Americo-German. Soon they seem lashed into fury by their bids and counter-bids, frantic gesticulations, and shoutings. They get through. What next? Watch them. They both rush into one of the many liquor saloons near by. Hark, now! For what do they call? Is it beer? No—brandy and whisky. This illustrates what intense excitability demands.

An ex-president of the "Board" said to me one day: "Our young men here are going to the devil fearfully fast. Why, then, are a dozen or twenty whisky shops within five hundred feet of the Gold-room? These have been lately fitted up with private lockers. These young fellows rent and fill them with bottles, and put the keys in their pockets. Every time they thrust their hands into their pockets the *feel* of the keys stirs the thirst. The scamps drink five times as much as they used to, and many are drunk before 11 o'clock. What can be done for these boys?" Our reply was: "Mr. H., give up the drink entirely yourself, then try them; no half-way will touch them." Since that something has been done to lessen these "fearfully fast" drinking habits on "'Change," but with little effect. Many for a time tried beer; but very few stick long to beer or wine—indeed not one, so far as I know.

Back, then, to the query, "How does beer work?" The answer, without hesitation is, toward drunkenness, degradation, and ruin. German pastors and missionaries are waking up to the perils of their own people. After careful consideration in visiting gardens and saloons, they have candidly, though sadly, been obliged to admit the facts and their perils. One very earnest and devoted German pastor said to me recently: "I am convinced you are right, sir; I *know* it is sin! I preach Christ to my people, and if I can not preach beer out of them they can't be saved!" Others have replied in like terms and emphasis.

There are scores and hundreds of facts to

prove the position in regard to the perils of our German population and their descendants. Just before I sat down to pen this article, there came to my office a poor, stricken man, a German. He sat by my side and told me his sad, sad story. His wife had become utterly abandoned to the drink curse. There had been three children born to them. Two of them had been killed by the mother's cruelty when drunk. The only one left, a child of three years, is very sick and near to death. The mother is off on a drunken spree, and Mr. S. is trying to find some one to care for his little one. He had not seemed to see till now the folly and wickedness of his own beer-drinking. Such aid and direction were given as the case required. There are hundreds of similar cases in this city alone.

The advocates of wine and beer—some, perhaps, very clear and very learned in some things, but fearfully mistaken and deceived men—are sowing "dragon's teeth." The disastrous effects of their utterances, example, and influence can be seen too often. Many young men who have accepted their theory are drifting with appalling certainty toward the fearful end of the drunkard. S.

NOTES IN SCIENCE AND AGRICULTURE.

Change of Earth's Polar Axis.—"Where the Continents now are, there they have ever been." This, from a noted scientist of the present era, pronounced in the heavy and measured dictum of dogmatism, we could not pass without comment. Now that the central liquidity of the earth's contents is questioned, it is in place to compare some data which would show how groundless the quoted assumption is. Volcanic action, in its highest intensity, produces Himalayas and Cordilleras. This is as likely to occur at or near the poles as elsewhere. That there is water at the present poles, does not prove the impossibility of a different status having existed. The arrangement of the water on the surface of the earth is in obedience to the law of *motion* as well as gravitation. This accounts for the seeming "flattening" at the poles, which may have been at or near the Himalayas and Cordilleras at some time previous to their emergence. The results of such emergence would be to induce glacial action of the extent to make the earth slightly egg-shaped. Then, in obedience to the law of motion, the longest axis seeks the line of greatest motion, bringing these stupendous glaciers under an equatorial sun, flooding former Continents; making "faults" in mines, leaving débris of marine action upon the highest mountains, as is the case, accounting for the exhibitions of hydraulic and dynamic forces, which are now subjects of speculation. F. M. SHAW.

Proposed Ship-Canal—An inquiry. *To the Editor.* SIR: The late terrible disasters to the steamers *Huron* and *Metropolis* have suggested to my mind the inquiry, whether the many dangers of ocean navigation around the Carolina coast might not be in a great measure avoided by means of a ship-canal. I am not familiar with the topography of that country or the coast, but as it appears on the maps a canal from some point on Albemarle Sound to Pamlico Sound would be feasible, with a length of only fifty or sixty miles. By such a canal, Cape Hatteras and much of that dangerous coast in the vicinity of where the *Huron* met her fate would be avoided. Then, again, a canal of still greater length—say two hundred miles—from the vicinity of Norfolk to Beaufort, may be practicable; and if so, nearly all the perilous navigation of the Atlantic coast, between the mouth of the Chesapeake and Charleston, might be escaped.

It does seem to me, that if either of these canals is practicable, the interests of commerce and the great saving of human life that would result from its construction, render the matter a subject of high national importance. I am not aware that the scheme has ever been broached; indeed, in my ignorance of the country, it may be entirely impracticable; if so, no harm can be done by calling public attention to it. There are, doubtless, among your readers many persons sufficiently cognizant of the facts to fully answer the inquiry, and give force to the scheme, if deemed necessary. T. G.

BANKS OF THE MISSISSIPPI, *January*, 1878.

A Savant's Death.—The death of Henry D. Ruhmkorff at Paris, on the 20th of December last, has been announced. He was born in Hanover, Germany, in 1803, and but little is known of his early life. In 1819 he wandered to Paris, and obtained a position as porter in the laboratory of Prof. Charles Chevalier, at that time one of the leading French physicists. Here he displayed a remarkable fondness for electrical apparatus, as well as ingenuity in its arrangement, and was enabled shortly after to start a modest manufactory of physical apparatus. In 1844 Ruhmkorff brought out his first invention, a convenient thermo-electric battery. Soon after he turned his attention to magneto-electricity, especially the production of the

induced currents, discovered by Faraday in 1832. A long series of experiments resulted in the appearance, in 1851, of the famous "Ruhmkorff coil," with its later modifications, the most important piece of apparatus in this branch of physics. The invention was rewarded by a decoration and medal at the Exhibition of 1855, while in 1858 it received the first prize of 50,000 francs at the French exhibition of electrical apparatus. Personally M. Ruhmkorff was of a quiet, dignified appearance, and despite the disadvantages of his early life, he enjoyed the friendship of the leading Parisian *savants* and was an honored member of the French Physical Society. M. Jamin delivered an address over the grave, in which he stated that Ruhmkorff died almost a poor man, because he had spent all his earnings on behalf of science and in works of benevolence.

A Tarantula's Home.—One of the most singular curiosities in nature that has ever come under our observation is the nest of a tarantula, a species of spider whose bite is supposed to result fatally. It is constructed of clay and small stones, and is about four inches long and two inches wide. A hole three-quarters of an inch in diameter passes through it lengthwise, one end of which is closed by a trap-door, beveled on the sides and top, and fitting so perfectly that when closed scarcely a sign of the opening is visible. The door is rounding at the top, perfectly straight on the bottom, and works on a hinge constructed on the same principle as the joints on which a door hangs. The nest is lined with a soft gossamer substance, and is as round as if bored with an auger. It is said that the tarantula, when attacked, crawls into its nest, and closing the trap-door, secures it by inserting one of its legs through a staple scarcely discernible to the naked eye.—*Galena* (Ill.) *Gazette*.

Theory of Land Drainage.—It appears somewhat paradoxical that drainage should be beneficial to vegetation, since water is so essential to the well-being of plants. But really, more water passes through a drained than an undrained soil. A party of gentlemen were throwing doubts upon the advantage of draining a particular clay field. "What is the use," they said, "of draining such land as this? Not a drop of water is running from the pipes." The reply was sagacious: "I don't drain so much to get water out of the land as to get it into the land." The work of the drainer consists in giving a free passage to water, thereby securing the passage of the entire rainfall through the body of the soil. It must be evident that, of a yearly rainfall, say of twenty-eight inches, upon a tenacious and wet (undrained) piece of land, part soaks into and through the soil, part finds its way as best it can into ditches, and part starves the soil by its evaporation once more into the air. But on a drained field, which is never surcharged at the surface, the whole of the rainfall passes into the land, thus proving the truth of the remark just quoted. By the above idea a flood of light is thrown upon the subject of drainage. Undrained land is surcharged with water for a great part of the year. By this is meant that the pores, or interstices, of the soil are completely full of water; and since two substances can not occupy the same space at the same time, it is evident that, while this state of things exists, neither fresh water nor air can gain admittance. The land is full of water, but it is stagnant or stationary. After drainage, the land may still be full of water at times, but it is in a condition of movement.—*Agr. Text-Book.*

Electric Lamp-Lighting.—The *Iron Age* thinks that the days of the lamplighter are numbered, and the time is at hand when he will exist only in story. Electricity is certain to take his place, because it can work more cheaply. It has been tried for the purpose of lighting and extinguishing 220 street lamps in Providence, R. I., scattered over a district nine miles long. One man attends to the whole business, and does it in fifteen seconds. The method has now been on trial for some months, and a saving of $10 per lamp per year is reported.

Teeth of the Races.—Dr. E. Lambert, of Brussels, has made a careful study of the teeth in the various races of man, and has arrived at some interesting conclusions. He finds very distinct characteristics in the dentation of the white and black races, especially in the molar teeth, for while in the former race they decrease in size backward, the last or wisdom tooth being the smallest, it is the reverse with the black race, the last being the largest.

Again, in the white race the molars have usually four cusps; in the black race the more usual number is five.

He observes also in the black race a slight diastema not met with in the white, and with the former the inner tubercle of the premolar is less developed than the outer, as with the anthropoid apes.

The dentation of the yellow races is more closely allied to the white than to the black race.

The red or native American race was unexpectedly found to present very nearly the same dentary characteristics as are shown in the black race.

The Evolution Theory Old in Japan.—A Japan correspondent says that he saw wrought in inlaid wood on a door in the great Temple of Ligmoto, a scene first showing a monkey, then an ape, then a gorilla, and so on up by gradual development, until the final one of the series was a perfect man surrounded by elephants and curious birds. The door was several hundred years old, whence it appears, if the above is correct, that the evolution theory in regard to the origin of species, though of recent date among us, was known in Japan centuries ago.

It is not the first time that we have found

instances where these Orientals, as well mentally as in practical arts, were far ahead of us during the period which we rightly call the Dark Middle Ages, and from which we only escaped by a fortunate coincidence of circumstances.

Plow Improvement.—Mr. J. M. Basset, of Athens, Ga., it is said has invented a plow, so constructed that the standard can be easily adjusted to give any pitch desired. The branches of the standard in which the plow beam rests are secured to the beam by a clamp formed of a bow and a bolted yoke. By loosening the clamp the standard can be easily moved. It will prove a very acceptable instrument to farmers.

Beware of Old Smoking-Pipes.—Nicotine is not the only poisonous substance in tobacco. It has been found that in old smoking-pipes two other poisonous compounds are collected, namely, pyridin and picolin. The cause of the investigation was the death of a child which had been blowing soap-bubbles from an old, dirty pipe. It was first put down as a case of nicotine poisoning, but further investigation showed the correctness of the researches of Vohl and Eulenberg in regard to the poisonous effects of what they call the pyridin series, a product of the dry distillation of tobacco, which acts by paralyzing the respiratory nerves, and causes death by exhaustive convulsions, terminating in total asphyxia; so it was concluded that the child did not die from nicotine, but from pyridin.

This now may be all the same to the public, but it is not the same to the physician and chemist, whose duty it is to ascertain the correct causes of disease and death, in order to profit by this knowledge for the benefit of mankind.

Straw-Fuel.—The Mennonites, who emigrated from Southern Russia and came over into our far western States, are teaching the people of that section still another lesson in this matter of thrift. Prof. Butler writes of them from Nebraska, that he had recently eaten a dinner among the Mennonites which was cooked with grass, and he says he has examined straw furnaces in the house of the Bishop and the men of his flock. The house in which the Bishop lives has been built two years; it is forty-eight by twenty-six, and there has been no freezing in it yet. Yet he has used nothing for winter fuel but straw, and his furnace, the iron-work of which cost but five dollars, is heated only three times a day. As the writer expresses it, what Nebraska has wasted now warms a thousand Muscovites. These Russian furnaces are being set up in the houses of Yankees.—*Col. Farmer.*

Tar-Water for Insects.—For the last five years I have not lost a cucumber or melon vine or cabbage plant. Get a barrel, with a few gallons of gas tar in it; pour water on the tar; always have it ready when needed, and when the bugs appear give them a liberal drink of the tar-water from a garden sprinkler, or otherwise, and if the rain washes it off and they return, repeat the dose. It will also destroy the Colorado potato beetle, and frighten the old long potato bug worse than a threshing with a brush. Five years ago this summer, both kinds appeared on my late potatoes, and I watered with the tar-water. The next day all Colorados that had not been well protected from the sprinkling were dead, and the others, though their name was legion, were all gone, and I have never seen one of them on the farm since. I am aware that many will look upon this with indifference, because it is so cheap and simple a remedy. Such should always suffer both by their own and their neighbors' bugs, as they frequently do.—*Chicago Tribune.*

Ravages of Insects.—A remarkable statement occurs in a report by one of the Government naturalists on the injurious insects of the West; namely, that in the United States, the loss of agricultural products through the ravages of insects amounts to "probably more than $200,000,000 each year, and that from one-quarter to one-half of this sum might be saved by preventive measures."

Be Gentle when you Milk.—The advantage of kindness to cows has been frequently insisted on in these pages, and is well illustrated by the following anecdote: A man had a fine cow that, week after week, was milked alternately by a couple of hired men. He observed that the amount of butter he carried weighed about a pound more each alternate week. He watched the men and tried the cow after they had finished milking; but always found that no milk had been left in the teats. Finally he asked the Scotch girl who took care of the milk, if she could account for the difference. "Why, yes," said she. "When Jim milks, he says to the old cow: 'So; my pretty muley; so!' But when Sam milks, he hits her on the hip with the edge of the pail, and says: 'H'ist, you old brute!'"

Want of Force and Health.—There are many men and women who are ill from want of brains. They suffer a voluntary decline because they do not possess the brain-power that can offer the blood any inducement to circulate. The blood does not want to be rushing about when there is nothing going on in the man or woman that owns the blood. Why should the heart or lungs be toiling all day and all night when the person who owns those machines has no use for any new stock of tissues or blood? Pluck is a wonderful agent in throwing off disease. A walk of five miles would cure many an occupant of the lounge. Will-power will surpass pill-power in nine cases out of ten, if not in every one. To hold a bottle of smelling salts in the hand on account of a headache may be just the thing at times, but to fling a pound of fruit cake out into the alley, and then walk a furlong as a reward for not eating the compound, is nearly always a much better thing

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GENTLE MEASURES WIN.

A CERTAIN class of pharmacists are given to using the poetic figure of Una and the Lion as a symbol or trade-mark, accompanying it with the words, "The mild power subdues." How true this principle in every-day life! Really effective work, that which promotes our ends in a physical and moral sense, and conduces to our happiness individually or collectively, is not accomplished by great blows, by harsh and noisy instrumentalities. The ponderous steam-hammer may forge the shaft into a rough form, but it is the quiet, steady movement of the lathe and the gentle tamping of the workman's light hammer that impart to it the finish and perfection which are necessary. The sculptor may boldly and heavily attack the rough block of marble, but when he aims to give to form an expression of grace and beauty he uses the small, delicate chisel, and lightly taps with his wooden mallet.

In the moral world we must be gentle, would we gain thoroughly our ends. Especially is kindness potent in efforts to reclaim those who have fallen into ways of vice and dissipation. Not long since we were riding in a car, and had for our neighbor-passengers an elderly gentleman and a young man, who were chatting pleasantly. We heard the elder remark in the kindest manner: "You still smoke, James?" "Yes," the young man replied. "I'm sorry," returned his companion. "You know, my dear boy, that it is hurtful to you." "Well, I like it; I enjoy it, and really, Mr. ——, I can not think that it hurts me, for I have no disagreeable feelings from it." "Ah, James! you may not experience much, if any, unpleasant results from smoking now, but in time, with the growth of the habit and the deepening of its poisonous influences, there will come sickness and troubles which might have been avoided by just giving up your cigar."

"But, Mr. ——, there are a great many people who have smoked for years and yet appear healthy and strong. There's Mr. —— and Mr. ——."

"Yes, my boy, they smoke; but did you know what the practice has cost them, not only in money, but in the way of nervous discomfort, ill-temper, inconvenience, and so on, you would wonder that they hadn't given it up long ago. I think that they would tell you that they had tried to do so, but weren't able. I am sure that neither would like to have his son learn to smoke. I never, James, knew a man who felt kindly toward having his boy use tobacco. How pleased your mother would be to have you drop it."

"I know that, sir."

"How beautiful in a son to respect the wish of a loving mother, especially when that wish has reference to what is altogether unnecessary, if not injurious."

The gentleman's voice indicated strong emotion, and the young man replied:

"Well, Mr. ——, I shall think about this."

"I hope you will, James. I want to see

you growing into a noble strength and lofty manhood, assuming the character which is yours by nature. You have done so well, so nobly already, I am anxious that you should continue to go forward."

The conversation was maintained in a low tone, and the above is the purport rather than its literal rendering, as now and then a word or a phrase was lost to us in the noise of the train. At a way-station the young man got out, leaving the elder, to whom we remarked, as the train went on:

"You will excuse me, sir, if I intimate that I was much interested in your conversation with that young gentleman. The manner in which you referred to his use of tobacco impressed me deeply."

"Yes," replied he, "I am anxious to have him give up his smoking. One year ago he was an habitual drinker, a sot; I have found him lying in the street filthy and almost unconscious, and have taken him home. You see what he is now. But the work is not done until he has thrown away his cigar, and I hope to succeed in that."

"I think that you will. 'The mild power subdues.' You know the saying, and you certainly appreciate its significance."

HATS AND BRAINS.

A FRENCH scientist of some eminence, Dr. Gaetan de Launey, well-known as a popular writer on scientific themes, published an article in the *Tribune Medicale*, entitled "Des Chapeaux" (Some Hats). In this he discusses the relation of the shape of a hat to the intellectual or brain development of its wearer, and derives some conclusions which are remarkably like those which students in Phrenology are accustomed to derive from similar examinations. Dr. de Launey believes in experimental methods, and does not discuss philosophical problems without having some basis of his own procurement.

"Having made examination in the shops of the manufacturers and dealers in hats, it is demonstrated," he says, "that certain families evolve like individuals, that is to say, they have a period of growth during which they develop, a period during which they remain stationary, and a period which leads to their substantial extinction. In families whose tendency is that of growth, the head expands generation after generation. The citizens who contributed to the revolution of 1789 had heads much larger than their fathers. On the contrary, in families on their way toward extinction, the head diminishes from the father to the son. The sons of families belonging to our upper classes have heads so small that they are obliged to have their hats made to order, hats ready-made being too large for them. Among certain families recently risen from the masses, the head is growing. Those hats with large rims which the republicans of 1830 and 1848 wore, had a very large opening (crown). . . . . In general, large heads belong to persons who give themselves to intellectual studies, but it is important to distinguish among these studies. For instance, the members of the Academy of Sciences have larger heads than their associates in other sections of the Institute. According to my researches, the Polytechnicians have a larger head than the St. Cyrians. In the same way, the pupils in the Normal School have a head greatly more developed than the pupils of the school of St. Sulpice. Indeed, the hats of the first have an 'opening,' that is the technical word, of five points, five and a half, six, and six and a half points, representing fifty-eight, fifty-nine, and sixty centimeters in circumference, while those of the second have an 'opening' of four, four and a half, five, and five and a half points, or from fifty-five to fifty-eight centimeters of circumference. Pupils in the Normal School have, then, a mean circumference of two and a half centimeters larger than the St. Sul-

piceans. Moreover, the opening of the hats of the high form, made at Paris, is from four and a half points to five and a half, fifty-six to fifty-eight centimeters, with a medium of five points, or fifty-seven centimeters. This medium is superior, then, by a quarter of a point to the medium of St. Sulpice, which is four and three-fourths points, which proves that the Sulpiceans have not only a smaller head than the Normals, but smaller even than the people at large. In general, this smallness of the head is prevalent among religious people, as the hatters in the quarter of St. Sulpice and of the Faubourg Germain have assured me that they fit only fine heads. The quarter where we find the largest heads is that of the schools. Indeed, the head-coverings which one finds among the hatters in this quarter, have a mean of five and a half points to six and a half, fifty-eight to sixty centimeters. According to some researches made by M. Brocetre in the hospital of Bicetre, the medical attendants have much more fullness of head than the invalids. M. Lacassaque, professor in the Val de Grace, having measured, with the assistance of a conformateur, the heads of two hundred doctors of medicine, pupils of the Val de Grace, and of two hundred soldiers, found that the latter had much smaller heads than the former.

"To those who think that this study of the volume of the head, made according to the capacity of the hats, is not a serious matter," asserts this *savant*, "I will say that the conclusions to which I have arrived, will be verified by the study of the capacity of the cranium, and of the weight of the brain."

We are very much in agreement with Dr. de Launey, as we know that the form of the crown-opening of a hat which is fitted well to the head indicates the cranial contour at the line where the hat rests upon the head, which line usually passes within an inch of the ear. Thus the basilar organs of the side- and back-head and of the middle of the forehead are comparatively shown, and may be estimated as to power with tolerable correctness.

MEMORY AND DREAMING.

AMONG the wonders of mental activity, the memory, as revived in dreams, is not the least. The property in mental life called Memory is that by which we may be said to live over past occurrences; and it is this continued possession of former consciousness which constitutes in us the knowledge of continued existence. He who should be conscious only of the present, forgetting entirely the past, would have no idea of continued duration; although he might live forever, he would not possess the sense of prolonged existence. Memory, then, would seem to make man conscious of immortality; and without memory, *now* would be the all of life, even though it were immortal.

One curious phase of dreaming is that it rarely brings back and repeats the pleasant facts of life, but almost always those which were troublesome or undesirable.

This may, perhaps, be accounted for by the fact that experiences which constituted the average current of daily life made no special impression upon the mind, whereas those occurrences which were remarkable and impressive by their offensiveness, anxiety, care, or cost, made a vivid impression, which left, as it were, an ineffaceable scar.

We are very apt to remember the errors and mistakes of ourselves or others much more vividly than their excellencies or the average current of experience. How the recollection of an awkward blunder in company, or a careless, ill-advised remark will send a chill of shame and regret through the system! A faithful horse may carry his rider a hundred miles without a misstep, but a round stone concealed in the sand may betray the step of the horse and bring him to his knees, causing the rider to give him a bad name as a saddle-horse, forgetting the

million steps securely taken, and remembering only the one failure, and even in that case overlooking entirely the adequate cause of the misstep. And this is a good analogue of human character or conduct. One may live half a century a model of correct deportment, and a single act of impropriety be recorded as more than an offset to all that was commendable.

More than fifty years ago I was employed in weaving on a fly-shuttle hand-loom, and even now in my dreams I am often weaving and get the shuttle caught in the web and break down threads, or the shuttle fails to go clear through, and I must push it to its destination by hand. I never dream of dashing on freely and pleasantly with the work; only the troublesome part, or the incomplete motions are revived in my dream-memory.

Over forty years ago I was connected with paper manufacturing, and my work consisted in running the machine which formed the paper. As we had no dryer, the paper run from the press-rolls, and was wound upon a reel or "lay-boy" in the wet state. Sometimes the paper would break and wind around the upper roll, and if allowed long to wind on, it made a kind of wet pasteboard, which must be broken at one side and peeled off by the hand as the roll revolved. This required a very dexterous and energetic effort, and it was one of the troublesome things about the work; and just this process I often perform in my dreams. It is not the smooth running of the machine, hour after hour without a break, except when one full "lay-boy" was to be removed and an empty one put on, that haunts my dream, but it is the incidental breaking of the paper.

Moreover, I dream of driving, not on a smooth road at an exhilarating speed, but with a toppling load and on a sidling road. I am driving over a defective causeway-bridge, or through a deep and rushing stream: phenomena which, in my early experience, constituted an exceptional and unpleasant fact.

I once forgot, on a rainy Sunday, to feed my horse until nearly night, and fifty times since that time I have dreamed of neglecting to feed a horse for two or three days and nights, waking with thankful joy to find that it was but a dream.

Will the memory of past misdeeds be the undying scourge of those whose life is misdirected and wicked? S.

WE MUST BE AMUSED.

MAN is organized for amusement, for avocations of a light and mirthful character. Into the processes by which amusing results are obtainable, the whole intellect and most of those faculties which are classified among the graver elements of mind may enter and actively operate. The grade or quality of the things which amuse us differs in accordance with our individual organization, its co-ordinate relation and development. Hence some persons find enjoyment in ways which to others appear absurd or contemptible, while some find diversion in what to most people appears serious and devoid of every essential of mirth. To be amused habitually by vicious or impure display, either in conduct or language, indicates a perverted mentality or an undeveloped moral organism.

In youth diversion is a necessity, as one of the means which nature employs for the growth of mind and body; and if a proper field for the requisite diversion be not available, it will be sought in channels more or less reprehensible. The parent who frowns upon the light amusements of the social circle, the merry song and lively game, the

concert and entertainment where laughter-provoking quip and joke and repartee fill up the measure of the hour, is not likely to inculcate in his children a love of home, that principle so essential to the integrity of the domestic relation and to communal prosperity. That community which permits its young members who are without the settled relation of home and family to float around from one drinking saloon or low place of amusement to another during the hours of release from labor, instead of providing a place to which they may repair and find a variety of facilities for pleasurable recreation, must expect a growth of the immoral element, and an increase from year to year, while such a condition is permitted, of the demoralizing rendezvous.

In this city there are several drinking-saloons to which their wily proprietors have added large and airy halls fitted up attractively, in which musical and dramatic performances are given. No charge for admission is made, and nightly these halls are filled, mainly with young men of the working classes. What they pay for the supplies of liquor, eatables, and cigars which are proffered by ubiquitous waiters, sustains these enterprises; and, in most cases, the proprietors make large profits, and are becoming rich. If Christian benevolence in large communities would operate successfully upon the masses, it must adapt its instrumentalities to their plane, and include in its scheme the best moral features of the drinking-saloon's concert-hall.

IGNORANCE AND ABUSE OF AUTHORITY.

THE newspapers of late have given much of their space to accounts of mismanagement and cruelty in several of our prisons and insane asylums. While every case which has been brought to the light reflects shame on all related to it officially and appeals to our humanity in behalf of the sufferer or sufferers, we can not but discern ignorance as the fundamental cause of the wrong doing. Were those vested with the function of appointment acquainted with the principles of phrenology and physiology we would find fewer incompetents intrusted with the keeping of offenders against law and order, and with the oversight of the unfortunate who have lost their reason. Ignorance is the parent of abuses.

A few days ago a gentleman possessing refinement and culture fell into the hands of certain New York sharpers, who, in the furtherance of their villainous scheme, procured his arrest and confinement in one of our district jails. The gentleman being but little known in this city, was unable to obtain bail at the high price demanded by the court having the matter in charge, and in his grief and shame became suddenly insane, and so violent that it was found necessary to send him to a hospital for the insane. The man who was taken to the jail, "a proud, handsome fellow, the very embodiment of health and strength," was transformed in a few days to a "gaunt and haggard wretch, with shaggy hair, sunken eyes, and wan features."

It is said that the poor fellow complained of pain in his head, but there was no one at hand to note the symptoms and intelligently diagnose his malady. We are of opinion that had this case been submitted to a good phrenological physician much distress would have been saved the unfortunate victim.

But this is scarcely more than an illustrative example of the point which must be clear enough to every observant reader, and to which we intended merely to refer, as in

the beginning of this item, that ignorance of the laws governing mind and body is the salient cause of the abuses which afflict our public institutions, and that a reasonable consideration for human rights and the welfare of our communities demands that only those who are fitted by organization and training for it should be authorized to have the personal charge of those whom the law has deprived of liberty.

Our Mentorial Bureau.

"He that questioneth much shall learn much."—*Bacon.*

To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY *will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.*

IF AN INQUIRY FAIL TO RECEIVE ATTENTION *within two months, the correspondent should repeat it; if not then published, the inquirer may conclude that an answer is withheld, for good reasons, by the editor.*

WE CANNOT UNDERTAKE TO RETURN UNAVAILABLE *contributions unless the necessary postage is provided by the writers. In all cases, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage—stamps being preferred. Anonymous letters will not be considered.*

DOES NOT WISH TO BE FAT.—E. R.—The disposition to corpulence is a systemic or dietetical one, and is based upon a good digestive capacity. In this country, where dyspepsia is so prevalent, he or she should be deemed most fortunate who possesses a good stomach, and care should be taken to preserve that stomach. People who are able to digest "anything from oatmeal to india-rubber," are likely to impose upon their gastric power, and give the stomach unnecessary work by eating irregularly, and doing things which tend to impair the digestive force. In the course of time the stomach will rebel very emphatically, and if they have not the good sense to be warned, and to adopt a different line of gastronomic habit, they will find themselves ere long in a condition of acute disease, or chronically dyspeptic. We would say to you, take care of your stomach; eat good nutritious food, avoid sweets, eat little or no butter, or greasy or fat food. Eat brown bread, mainly; little or no milk; do not drink much; very little fluid is necessary for health. The juices of good food are sufficient for healthful nutrition. Eat plenty of fruit, stewed plainly, with little or no sugar. Take abundant out-of-door exercise. Reading, study, thought upon earnest subjects tend to use up the products of digestion rapidly. Students are generally thin, as you know. The book on Digestion and Dyspepsia furnishes some hints with reference to kinds of food adapted to a case like yours.

THE EAR.—I have noticed that the height of the ear measured by a horizontal line drawn from the outer corner of the eye, varied in different persons, after making allowance for the difference in the size of the ear. What, if any, indication of character does this show? F. H. R.

Answer: Why did you not measure in relation to the opening of the ear? Some ears are very small and some very large, and an estimate of their difference in size is very uncertain; while the opening of the ear is anatomically a fixed starting-point. The middle lobe of the brain is sometimes low down, and this indicates strong animal and selfish propensities. In this case the opening of the ear is low as compared with the eyebrow. One may have a small anterior lobe of brain and a weak intellect, while the middle lobe is only of full size; then the eye will be high as compared with the opening of the ear, and propensity, though not too strong in fact, is relatively too strong for the intellect to be consistent with harmony of character. See February PHRENOLOGICAL JOURNAL for definition of "Phrenology" in article entitled "Brain and Mind."

TENDENCY TO DESPOND.—You should avoid all relations which suggest morbid ideas. Bring to bear in your every-day life the stronger elements of your character. Take a real, practical view of affairs. Consider the expediencies and fitness of things. Endeavor to be a little sordid; not cynical, not splenetic, but practical and matter-of-fact; consider the uses and profitable adaptation of things. Brace up your Firmness and Self-esteem, exercise your Approbativeness, Friendship, and Continuity. Be more combative, assured, and courageous. Have an aim

—everybody can have an aim in life—and keep that aim in view, and push toward it earnestly, striving to forget, or disregard, side influences, and those who doubt and speculate upon your capability and your judgment.

INFLUENCE OF SURROUNDINGS, ETC.—*Question*—(1). Have not the climate and surroundings much to do with the physical and intellectual development of man? *Answer:* Yes, very much. (2). Will every country in the world produce men of genius? *Answer:* Such has been the history of the past. All countries which have a record, have produced men who were geniuses to them. (3). Can a person control his own belief or his own opinion? *Answer:* So the advocates of free agency maintain, and we are inclined to think that the true man can.

PERSONAL MAGNETISM.—L. B.—This element in human nature is dependent largely for its strength upon organization and temperament. Those who have good health—are strong and active, possess, as a rule, more magnetism than the weakly; therefore, if you would obtain more magnetic force, improve your health, and cultivate a better condition of the mental faculties, especially those which relate to social life.

GALL AND SPURZHEIM, ETC.—W. E. S.—Your questions will be pretty fully considered in the course of the articles on "Brain and Mind," which see as they proceed.

QUESTION AND ANSWER.—A. P.—We think that you were treated very shabbily in the matter to which you refer. Your question about the horses was certainly not answered, in the generally accepted sense of the term "answer." You received a *reply* for your money, but not an *answer*. It would have been the part of honesty to return your money. Be very particular in your treatment of advertisements of the sort mentioned, as there is a great deal of "fishing for fools" in that way.

TECHNICAL EDUCATION.—F. C. R.—The Cooper Union classes in this city are free, so that your expenses would be chiefly in the way of board, and that you can obtain now at a very moderate price, from three to five dollars a week, according to accommodations. In the Cooper Union you can obtain instruction upon almost any subject. The art department is admirably furnished.

ROUND SHOULDERS.—D. W. C.—When one possesses large shoulder-blades and well-developed tissues, there is necessarily much roundness of the shoulders; yet if such a one possess a capacious chest and stand erect, such posterior roundness contributes to his physical symmetry. We do not admire flat backs. Keep your shoulders well back and your head up, whether walking, standing, or sitting. There is a little instrument sold in this and other cities which supplies a very simple method of exercise for those whose lungs are weak and muscles flabby. It is merely an india-rubber tube about two feet long. Using this daily will help to straighten you and bring your shoulders more into line.

PLASTER CASTS.—C. G. O.—From time to time we have had much to say on the subject. An article of considerable length was published in one of our Annuals a few years since. You will find it in a volume entitled "Combined Annuals," or in the separate issue for 1872, price twenty-five cents.

PHYSICIAN.—M. M. M.—A knowledge of the classical tongues is not essential to a medical education, but some knowledge of Latin is always very useful. In general, however, we would say, the more thorough one's education, the better will be his success. You should certainly have good health. It is a great drawback to one who expects to become a physician to be sickly or invalided. It is in your favor that you are not a user of tobacco or in any way indulgent in alcoholic beverages. The prevalence of such habits among physicians is a serious obstacle to them as concerns reputation and popular confidence.

[WE have received several other communications, which are on file awaiting attention.]

What They Say.

THOROUGHNESS.—We hear much said about a thorough education. College catalogues and normal school circulars all claim to give their pupils thorough drills in the respective branches they teach.

What is thoroughness in education? If it were possible to educate every one so that he would have a complete knowledge of all the branches of mental investigation, then we might truly call that person a thorough scholar. But this is evidently impossible. There have been but few men as thorough scholars as John Quincy Adams, yet there were in his time many lines of investigation of which he was completely ignorant. No one can be a proficient in everything. A universal genius has never been found. The field of human inquiry is too large. You all know what the great scholar Isaac Newton said after he had explored and weighed worlds,

and analyzed the sunbeam, and plunged as deep as any man of his time into the ocean of science. He said he was like a little child on the sea-shore picking up a few bright pebbles while the great ocean of truth lay unexplored before him.

But our point is this: Instead of trying to master the details of every branch of knowledge, would it not be better to try to gain the general principles of every science, and then follow out some one branch such as our organization best adapts us to pursue? To a believer in the science of Phrenology this will be apparent. In order to follow any one branch of science successfully it is necessary to have a general knowledge of all the sciences. There is an intimate interrelation of the branches of knowledge. To pursue the science of Geology, one must have some knowledge of Language, of Botany, of Chemistry, of Physics, of Mathematics, of Geography, of Astronomy, etc.

It is true there are some examples of persons who lack almost totally in certain faculties, though they may be well developed in all the others, yet such cases are comparatively rare. George Combe was deficient in the faculty of Calculation, yet he had a full development of the other faculties, and was a great scholar. The general principles of every science may be taught to almost every one, and every one has a special adaptation to some special science.

The general principles of a science are not difficult to acquire. We teach children the fundamental principles of Mathematics, of Geography, of Astronomy, of Language, etc., with little difficulty. There are problems in all sciences that are exceedingly difficult of solution. We need more specialists, and they need a general knowledge to begin with. If our educators were better versed in the science of Phrenology they would change their mode of teaching in regard to the matter taught. Our schools and colleges are doing a great work. They are turning out a vast amount of efficient working material. They are fast advancing the work of converting the nations from barbarism to civilization, of making the desert blossom as the rose. But there is yet vast room for improvement. Take it in our common schools, for example. The child is taught the names of places of little importance, thousands of miles from his home, while the fundamental ideas of geographical science are not impressed upon his mind. He is taught to spell thousands of words the most of which he will never meet with outside of some technical work, while he can not when he leaves school write a simple letter to his grandmother without misspelling half the words. A schoolboy's letter is a sad commentary on the thoroughness of our teachers. There are certain principles which are of more importance because of every-day use. There are others which are of importance, but being of a special nature should be made subsidiary. Children are crowded through too much, and not sufficient stress is laid upon that which is fundamentally of the most practical importance. School is the place to learn general principles, and life-work is needed to acquire the details of one science.

> "One science, only, will one genius fit,
> So great is art, so small is human wit."

Nearly all the great discoveries have been made by specialists, men who devoted their lives to some one branch of inquiry. That school which sends out its pupils having a knowledge of the most important principles of all branches of knowledge, and directs them to pursue some special branch adapted to their physical and mental organization, having at the same time taught them how to study, how to discriminate the most important from the less valuable, is the school which gives the most thorough education. The teacher should have a knowledge of Phrenology so that he can tell what his pupils are best adapted for; and while he should try to encourage the faculties that lie comparatively dormant, he should not repress those intellectual faculties which are especially active by trying to make all his pupils run in one educational rut.

A division of labor is necessary in mental work as well as in physical work. It is the province of Phrenology to assign each laborer his field. The future triumphs of science and art will be made by men who, being particularly adapted to some pursuit, follow it with untiring zeal and perseverance.

G. DALLAS LIND.

LET THE CRITIC OF MORALS BE CAREFUL IN HIS LANGUAGE.—"*Editor* PHRENOLOGICAL JOURNAL, *etc.:* I recently became a subscriber to your valuable JOURNAL and take much pleasure in reading it. But I must enter my protest against the language used by your contributor (Mr. E.) in the article on 'The Use of Tobacco,' at page 154, line 20; in which he calls a smoker a '*filthy fool.*'

"That smoking is a bad habit, and offensive to those who do not use tobacco, I willingly concede; but because I smoke and Mr. M. does not, I deny his right to call me either 'filthy' or 'a fool.' He (Mr. M.) may be a very wise man, he may be a gentleman, but his language is certainly not courteous. 'Who is a wise man, and endued with knowledge among you? Let him show out of a *good conversation* his works with meekness of wisdom.'—James iii. 13. Yours respectfully, SMOKER."

[We very willingly give an audience to the smoking side in this matter, as excessive zeal in a good cause is not a tolerable excuse for improper epithets.]

Library.

In this department we give short reviews of such NEW BOOKS *as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor us with their recent publications, especially those related in any way to mental and physiological science.*

THE AMERICAN ALMANAC AND TREASURY OF FACTS, Statistical, Financial, and Political, for the Year 1878. Edited by Ainsworth R. Spofford, Librarian of Congress. Pp. 420. New York and Washington: The American News Company.

This is certainly a compact and comprehensive reference book. It contains the essential features of reports concerning public lands, finance, the post-office, the revenue, currency, patent-office, army and navy, etc., thus representing a vast amount of hard work in selecting, arranging, and condensing valuable material. To the editor, statesman, writer, and to all who are interested in public affairs, this volume is a great convenience. Some features which appear to us of special value, we will note, viz.: A list of notable persons, arranged alphabetically, from Solon to Jacob Abbott, giving their birth, date, and time of decease; an article on "Free Homesteads;" Curiosities of Statistics; Table of American Libraries containing ten thousand volumes and more; the Commercial Crises of the Century; the Silver Money Question; the Capital of the United States, etc. We welcome this volume as a very useful accessory to our bookshelf.

THROUGH A NEEDLE'S EYE. By Hesba Stretton, author of "Bede's Charity," "The King's Servants," etc. 12mo, cloth, pp. 433. Price, $1.50. New York: Dodd, Mead & Co.

A picture of English country life is unfolded to our mental gaze in the course of the fifty-one chapters which compose this new story. The plot appears to be, in brief, this: An old landowner, Herford by name, dies, and a step-son, who had been acting as vicar in the parish embraced by the estate, succeeds him as heir by virtue of a will which had been made when old Herford was angry with his own son, who was given to a vicious and disorderly life. Justin Webb, the step-son, appoints a worthy minister in his place as vicar, and commences the administration of the affairs of the estate, and shows so much business tact and sagacity, that in a few years the property is rendered doubly valuable, and Justin is regarded as a rising star in county affairs. The former vicar realizes his own conviction that he was not "cut out" for a minister, but for a business man. His step-brother, who ran away from home shortly before the death of his father, and had gone, nobody knew where, after an absence of ten or more years, returns penniless and foot-sore to his father's house. Justin then insists upon making over the greatly improved estate to him as the rightful heir, alleging that his late step-father had destroyed by mistake the will he intended should stand, and in that will so destroyed he had constituted the prodigal his sole heir. Justin's scruples of conscience are only satisfied by a complete surrender. And taking his only child, Pansy, he goes to London, where he finds employment as a missionary. A year or so elapses and he is summoned to Herford, his old home, to find his step-brother a helpless invalid, from an accident sustained while out carousing with one like-minded with himself. The estate is restored to Justin, whereat the villagers are greatly rejoiced. And now with a mind at peace, he resumes his interrupted administration of its affairs. His scrupulous conduct in the giving up the property awakened suspicion in the minds of friends and cost others deep pangs, even the health and life of his beloved Pansy, but he persisted in going "through the needle's eye" and performing to the full measure his convictions of duty. The volume points an excellent moral, and is high in tone and attractive in style.

HOW TO CONDUCT A PUBLIC MEETING, or the Chairman's Guide for conducting meetings, public and private, according to the best Parliamentary Rules. Paper, price 15 cents each; $1.20 per dozen. New York: S. R. Wells & Co., publishers.

The American being a talker, can not exercise his faculty without finding people to talk with, or to, and for the more effective exercise of his energetic organ of Language, forms societies and co-operative enterprises so that it may be convenient for him to talk, debate, and recite. All organized effort for the exercise of language needs direction. A society which has a set Constitution works all the more efficiently if such Constitution be wisely prepared and well arranged. Aside from the mere Constitution, there is need for an Order of Proceedings, or rules for governing the conduct of a society's meetings. When people speak by rule, what they say has more point, directness, and effect. Loose and slouchy talk doesn't accomplish much in the way of persuading others, and therefore lacks effect. The pamphlet which is noted above has been published to meet the need of societies, public and private, literary and otherwise. It contains the excellent order and rules for parliamentary practice which were published in the work entitled "Oratory, Sacred and Secular;" and has been prepared in response to a demand for a low-

priced publication which would furnish a very comprehensive manual for the use of the people. A list of appropriate questions for debate in lyceums, literary associations, etc., is included. Many of the questions are appropriate to the thought, scientific, moral, and religious, of the present day, and are therefore fresh and vital.

ELOCUTION SIMPLIFIED, with an Appendix on Lisping, Stammering, Stuttering, and other defects of Speech. By Walter K. Fobes, graduate of Boston University School of Oratory. With an Introduction by George M. Baker, author of "The Reading Club Series," etc. pp. 94. Price 50 cents. Boston: Lee & Shepard.

This little manual seems to combine nearly all the essentials of a course in elocution. There are many among our readers, doubtless, who would be willing enough to study the principles of vocal gymnastics, but have been heretofore deterred from doing so by the supposed cost of text-books. Most of those authors with whom we have been familiar—like Bronson's and Comstock's, whose value is indisputable—are rather costly, and so have not been widely circulated. Mr. Fobes has the advantage of the best training, and that in two or three different schools. The physiological suggestions are valuable, and in that respect the book is a kind of missionary for the good of humanity, when it says: "Avoid all stimulants, or tobacco, or anything of the kind. Obey the laws of life as to exercise, rest, pure air, good food, and temperance in all things." It seems to us that all the textual instruction which the average student would need, is comprehended within the covers of this volume.

THE ACTION OF ALCOHOL ON THE BODY AND ON THE MIND. By Benjamin W. Richardson, M.D., F.R.S. New York: National Temperance Society and Publication House. Paper, price 25 cents.

This pamphlet embraces two addresses by Dr. Richardson, the first delivered at Oxford, on "The Action of Alcohol on the Body;" the other at a meeting of the Cambridge Church Temperance Association, on "The Action of Alcohol on the Mind." The position of this medicist with reference to the use of alcohol as a beverage is well known; he is its determined antagonist, and one of the champions most highly respected by temperance reformers. The two addresses are condensations of physiological fact, and we commend them to all who stand in the valley of indecision with reference to their course in considering the temperance question. Within the space of fifty or sixty pages this pamphlet contains the gist of volumes.

THE RAPID WRITER AND TACHYGRAPHER. Published monthly by the Rapid Writer Association of New York. Price $2.00 per year.

The writer of the first article claims that tachygraphy is superior in the facility of its acquirement to phonography, and instances Mount Union College in Ohio, Bryant Commercial College in Chicago, Amherst College, and other places, as being the theaters of its comparative trial with phonography, and showing as a result, that whereas only a few persons in a hundred mastered phonography, nearly all succeeded in acquiring a practical knowledge of tachygraphy. The writer says: "Now, if you find that practically only ten persons in a hundred succeed in mastering phonography, and ninety-five persons in a hundred succeed in mastering tachygraphy, is not this a great gain in favor of tachygraphy? If you find that tachygraphy is vastly more legible, will not this add to its value?" To this we must answer, yes. If so, and so be so, why, such and such must follow!

PUBLICATIONS RECEIVED.

THE MONTHLY WEATHER REVIEW of the War Department, for January, notes as the most prominent events of the month: The high temperatures of the Missouri and Upper Mississippi valleys and the Lake region; the high pressures over the same region; the severe storms of the 11th and the 31st on the Atlantic coasts, and of the 14th to the 16th and the 24th to the 28th on the Pacific coasts; the excessive rain-fall in Northern California; the remarkable measured wind-velocities of 120 miles per hour at Cape Lookout and 186 at Mount Washington; the forward state of vegetation in the western and northern sections; the aurora of the 23d.

PRO AND CON OF SPELLING REFORM. By Prof. O. E. Vaile, of Woodward High-school, Cincinnati, O. The ground taken in this essay is favorable to simplifying our common orthography, reducing words to the simplest form, and spelling in accordance with phonetic principles.

SOME WAYS of Strengthening and Extending the Total Abstinence Movement. By Henry C. Potter, D.D. This paper was prepared for one of the "Parlor Conferences" held by the National Temperance Society. It is worth reading, as it brings into strong light many of the reasons for the total abstinence view of the temperance question. Dr. Potter, as rector of Grace church, New York, occupies a prominent position in society, and his reasoning will be listened to with deference.

GOOD WORDS for the Working-women of New York. By Justice Davis, Dr. W. M. Taylor, and other gentlemen of reputation. Published by the Working-women's Protective Union. A most worthy charity, one of whose special objects is the protection of the working-women from the frauds and impositions of unscrupulous employers.